IDEM Explosion-Proof Interlock Safety Switches

KP-EX-200026

K-SS-EX-208026

KM-EX-203026

KM-SS-EX-204026

IDEM's range of explosion-proof, tongue interlock switches has been developed to satisfy the latest IECEx and ATEX Standards and to provide explosion-proof switching for use in hazardous locations created within the oil, chemical, pharmaceutical, food processing, packaging and other hazardous industries.

Designed to fit to the leading edge of sliding, hinged or lift-off machine guards, these switches provide positively operated switching contacts plus a tamper resistant key mechanism that is not easily defeated. They combine explosion-proof protection and satisfy high functional safety requirements all in one device.

They are available in a variety of housings to satisfy virtually all applications where the potential for explosion exists.

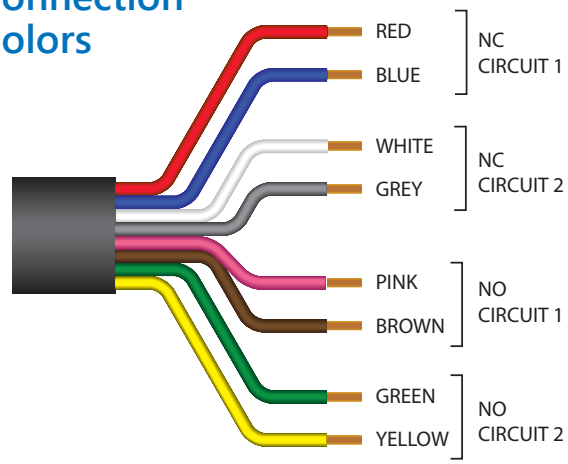
These switches are manufactured with ATEX Exd IIC T6 certified explosion proof contact blocks. All electrical switching elements are fully encapsulated.

Features

- 3m [9.84 ft] prewired pigtail cable
- Force guided NC contacts
- Two NO and two NC contacts
- Plastic, aluminum and stainless steel 316 options available
- Includes one tamper-proof T20 Torx bit (KM models only)
- Purchase actuating key separately. (See accessories)

IDEM Explosion Proof Interlock Safety Switches									
Part Number	*Price*	*Body Material*	*Head Adjustability*	*Entry Positions*	*Actuator Travel*	*Force for Positive Opening*	*Contacts*	*Weight lb [kg]*	*Drawings*
KP-EX-200026	$595.00	Plastic	180°	4	6mm [0.24 in]	12N	2 NO, 2 NC	0.88 [0.40]	PDF
K-SS-EX-208026	$716.00	Stainless steel 316	180°	4	6mm [0.24 in]	12N	2 NO, 2 NC	1.98 [0.90]	PDF
KM-EX-203026	$635.00	Die-cast aluminum	90°	8	6mm [0.24 in]	12N	2 NO, 2 NC	1.18 [0.54]	PDF
KM-SS-EX-204026	$721.00	Stainless steel 316	90°	8	6mm [0.24 in]	12N	2 NO, 2 NC	2.18 [0.99]	PDF

Connection Colors



IDEM Explosion-Proof Safety Switches Specifications

Specifications					
	HLM-EX / HLM-SS-EX	***KM-EX / KM-SS-EX***	***KP-EX / K-SS-EX***	***GLS-EX / GLS-SS-EX***	***GLHx-EX***
Safety Classification and Reliability Data					
Switching Reliability ($B10_d$)	2.5 x 10^6 operations at 100mA load			1.5 x 10^6 operations at 100mA load	
ISO 13849-1	Up to PLe depending upon system architecture				
EN 62061	Up to SIL3 depending upon system architecture				
Safety Data - Annual Usage	8 cycles per hour / 24 hours per day / 365 days				
$MTTF_d$	356 years			214 years	
Agency Approvals	ATEX, IECEx, CE The contact block is cURus Hazardous Location rated (E358295)				
Electrical and General Specifications					
Utilization Category	B300 (pilot duty)				
Minimum Switch Current	5mA, 5VDC				
Thermal Current	2.5 A max				
Maximum Switching Current	250VAC/DC, 2.5 A maximum				
Maximum Approach/Withdrawal Speed	600mm/s [23.6 in/s]			NA	
Enclosure Protection	IP67 (IP69K on all models with both stainless steel head and body)				
Operating Temperature	-20°C to 60°C [-4°F to 140°F]				
Vibration	IEC 68-2-6, 10Hz to 55Hz 0.35mm [0.01 in]	IEC 68-2-6, 10Hz to 55Hz + 1Hz			
Lid Screws/Torque	Plated brass 1 N•m [0.74 lb•ft]	Stainless steel T20 Torx 1 N•m [0.74 lb•ft]	Stainless steel 1 N•m [0.74 lb•ft]		Stainless steel T20 Torx 1.5 N•m [1.11 lb•ft]
Recommended Mounting Screws/ Torque	M4 2 N•m [1,48 lb•ft]	M5 4N•m [2.95 lb•ft]			
Head Screws/Torque	Stainless steel, except snap (plated brass) 1 N•m [0.74 lb•ft]	Stainless steel T20 Torx 1 N•m [0.74 lb•ft]	Stainless steel; 1 N•m [0.74 lb•ft]		

IDEM Interlock/Hinge Safety Travel Charts

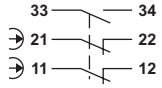
Interlock Safety Switch Types

Slow-make/slow-break contacts:
A contact element in which the contact motion is dependent on the actuator speed.

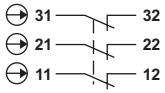
Snap-action contact:
A contact element in which the contact motion is independent of the speed of the actuator. This feature ensures reliable electrical performance even in applications involving very slow moving actuators.

Contacts Configuration

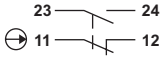
1 NO and 2 NC
Slow-make/slow-break contacts



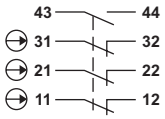
3 NC
Slow-make/slow-break contacts



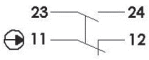
1 NO and 1 NC
Snap action contacts



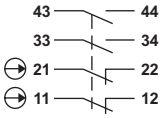
1 NO and 3 NC
Slow-make/slow-break contacts



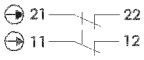
1 NO and 1 NC
Slow-make/slow-break contacts



2 NO and 2 NC
Slow-make/slow-break contacts



2 NC
Slow-make/slow-break contacts



Travel Charts

Contact Open
Contact Closed

Interlock Switches

2NC 1NO — 6.8, 6.0, 0 mm

11/12	Open	
21/22	Open	
33/34		Open

3NC — 6.0, 0 mm

11/12	Open	
21/22	Open	
31/32	Open	

3NC 1NO — 6.8, 6.0, 0 mm

11/12	Open	
21/22	Open	
31/32	Open	
43/44		Open

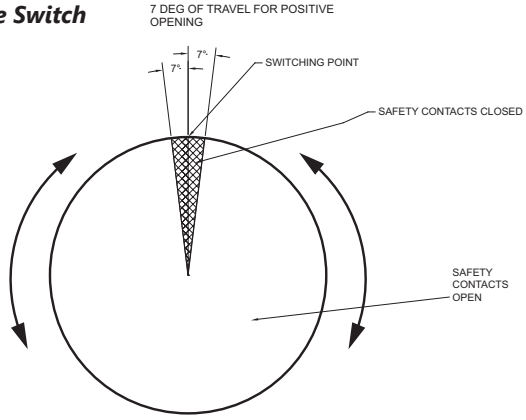
2NC 2NO — 6.8, 6.0, 0 mm

11/12	Open	
21/22	Open	
33/34		Open
43/44		Open

1NC 1NO (SNAP) — 6.5, 0 mm

11/12	Open	
23/24		Open

Hinge Switch



User to ensure that by correct positioning of the shaft at installation causes the safety contacts to open such that no hazard exists to the operator when the door is opened a few degrees.

Safety Rope Switches

				0 mm	3.5 mm	14.5 mm	17.0 mm
EX	***1 NO/2 NC***	***1 NO/3 N.C.***	***2 NO/2 N.C.***	***Latched off - Rope Slack***	***Tension Range (Switch Reset)***		***Rope Pulled***
NC	11/12	11/12	11/12	Open			Open
	21/22	21/22	21/22	Open			Open
		31/32		Open			Open
NO	33/34	43/44	33/44		Open		
			43/44		Open		

IDEM Interlock Safety Accessories

Actuator Keys For Use With KP/K15 and K-SS/KM/KM-SS

- All keys are 316 stainless steel
- Flexible key options available

140106

140107

140108

140109

140110

140111

140130

IDEM Interlock Safety Switch Actuator Tongue (Keys)							
Part Number	*Price*	*Description*	*Use With*		*Minimum Entry Radius (mm [in])*	*Weight (lb [g])*	*Drawings*
			KP/K-15	*K-SS/KM/ KM-SS*			
140106	$10.50	40mm mounting hole spacing, 90° stainless steel key/mounting tab	✓*		175mm [6.89]	0.07 [31.8]	PDF
140107	$11.00	40mm mounting hole spacing, 90° stainless steel key/mounting tab	✓**	✓	175mm [6.89]	0.07 [31.8]	PDF
140108	$10.50	20mm mounting hole spacing, straight stainless steel key with plastic stop	✓	✓	175mm [6.89]	0.07 [31.8]	PDF
140109	$19.50	40mm mounting hole spacing, stainless steel key with polyester flexible mounting tab	✓	✓	100mm [3.94]	0.10 [45.4]	PDF
140110	$38.50	40mm mounting hole spacing, stainless steel key with black painted aluminum flexible mounting tab	✓	✓	100mm [3.94]	0.16 [72.6]	PDF
140111	$78.00	40mm mounting hole spacing, stainless steel key with mirror polished stainless steel flexible mounting tab	✓	✓	100mm [3.94]	0.22 [99.8]	PDF
140130	$54.00	IDEM lockout actuator, stainless steel, for use with IDEM tongue (key) switches	✓	✓	NA	0.10 [45.4]	PDF

*** For KP and K-15 series with plastic heads**
**** For KP and K-15 series with stainless steel heads**

IDEM Interlock Safety Accessories

Accessories

- Gate bolt kits provide a sliding latch and lockout for swinging or sliding doors
- Comes with handle and flat actuator
- Sliding action prevents accidental closure
- Requires four M5 x 45mm mounting hardware (not included)
- Gate bolt kit materials: ABS plastic handle; mild steel yellow plate; aluminum black base; mild steel plated bar (inserts into guide); stainless steel guide and key

GBA-1-210003

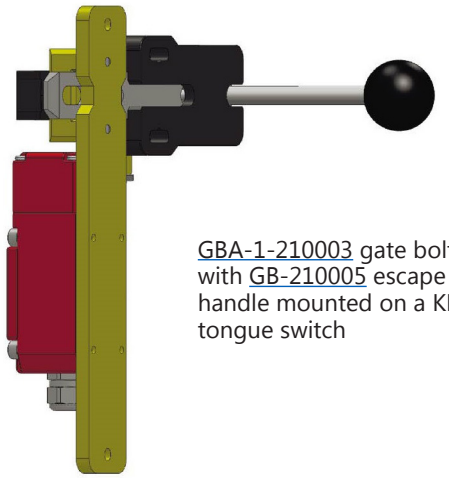
GBA-1-210004

GB-210005

GB-210006

IDEM Interlock Safety Switch Accessories						
Part Number	Price	Description	Use with:		Weight (lb [g])	Drawings
			KM	GBA-1		
GBA-1-210003	$137.00	IDEM gate bolt, left hand version, for use with KM series safety switches. Includes actuating tongue (key).	✓		3.7 [1678]	PDF
GBA-1-210004	$137.00	IDEM gate bolt, right hand version, for use with KM series safety switches. Includes actuating tongue (key).	✓		3.7 [1678]	PDF
GB-210005	$19.50	IDEM rear escape handle, for use with GBA-1 and GBL-1 series gate bolts		✓	0.1 [45]	PDF
GB-210006	$19.50	IDEM spring loaded catch, for use with GBA-1 and GBL-1 series gate bolts		✓	0.08 [36]	PDF

Assembly Example



GBA-1-210003 gate bolt with GB-210005 escape handle mounted on a KM tongue switch

Safety Products

Warning: Safety products sold by AutomationDirect are Safety components only. The purchaser/installer is solely responsible for the application of these components and ensuring all necessary steps have been taken to assure each application and use meets all performance and applicable safety requirements and/or local, national and/or international safety codes as required by the application. AutomationDirect cannot certify that our products, used solely or in conjunction with other AutomationDirect or other vendors' products, will assure safety for any application. Any person using or applying any products sold by AutomationDirect is responsible for learning the safety requirements for their individual application and applying them, and therefore assumes all risks, and accepts full and complete responsibility, for the selection and suitability of the product for their respective application.

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