IDEM Inch Safety Switches

Inch Series Housing

- Tongue interlocking switch
- Designed to fit leading edge, hinged or lift off machine guards
- 16.5 mm- 18mm mounting profile (Inch-X); 16.5 mm-22mm mounting profile (MK-1)
- M16, 1/2" NPT threaded opening or M12 quick disconnect connection
- 90 degree adjustable head
- Standard and compact housings
- Force guided NC contacts
- Rotating heads with dual actuator entry
- Purchase actuating key separately (See accessories)

See electrical specifications later in this section.

IDEM Inch Series

IDEM Inch Safety Switches								
Part Number	***Price***	***Body Material***	***Head Material***	***Weight (lb)***	***Actuator Travel / Force for Positive Opening***	***Contact Configuration***	***Connection***	***Dimensions***
INCH-1 Miniature Tongue Interlock Safety Switch								
INCH-1-222001		Plastic	316 stainless steel	0.29	6mm/12N	2 N.C. Slow action	1 x M16	Figure 1
INCH-1-222002				0.32			M12 Quick disconnect	
INCH-1-222003				0.29		1 N.O., 1 N.C. Slow action, break before make	1 x M16	
INCH-1-222004				0.32			M12 Quick disconnect	
INCH-3 Miniature Tongue Interlock Safety Switch								
INCH-3-223001		Plastic	316 stainless steel	0.29	6mm/12N	1 N.O., 2 N.C. Slow action, break before make	3 x M16	Figure 2
INCH-3-223002				0.32			M12 Quick disconnect	
MK1-SS Miniature Tongue Interlock Safety Switch								
MK1-SS-224001		316 stainless steel		0.70	6mm/12N	1 N.O., 2 N.C. Slow action, break before make	1 x M20	Figure 3
MK1-SS-224002				0.70			1 x 1/2" NPT	
MK1-SS-224003				0.75			M12 Quick disconnect	

IDEM Inch Safety Switches

Dimensions

mm [in]

Figure 1

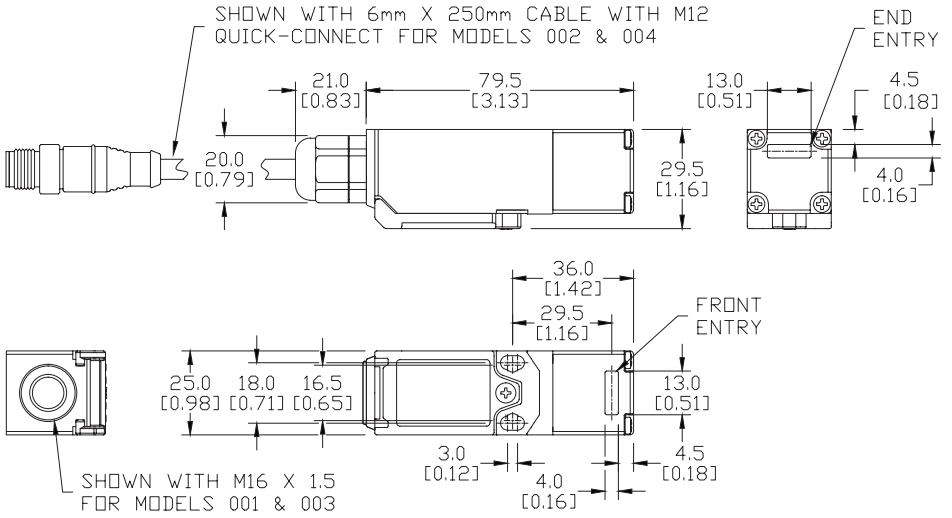


Figure 2

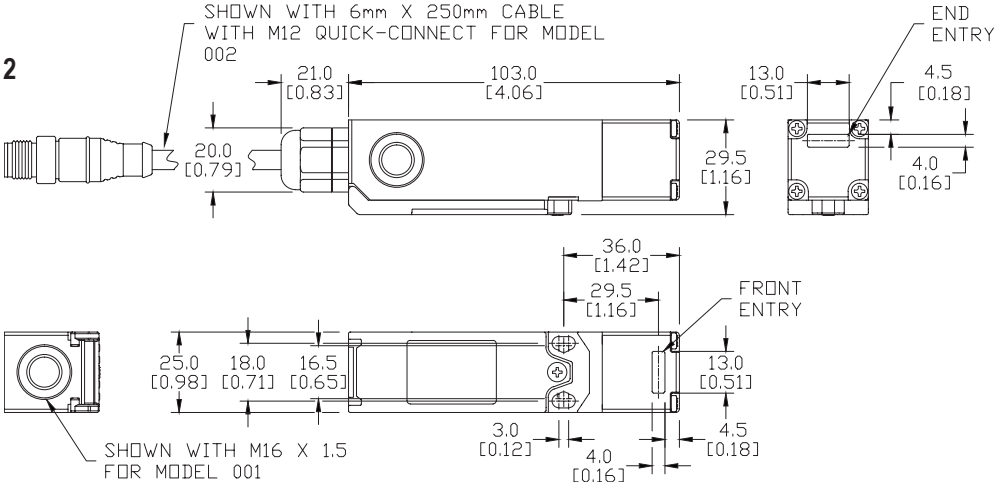
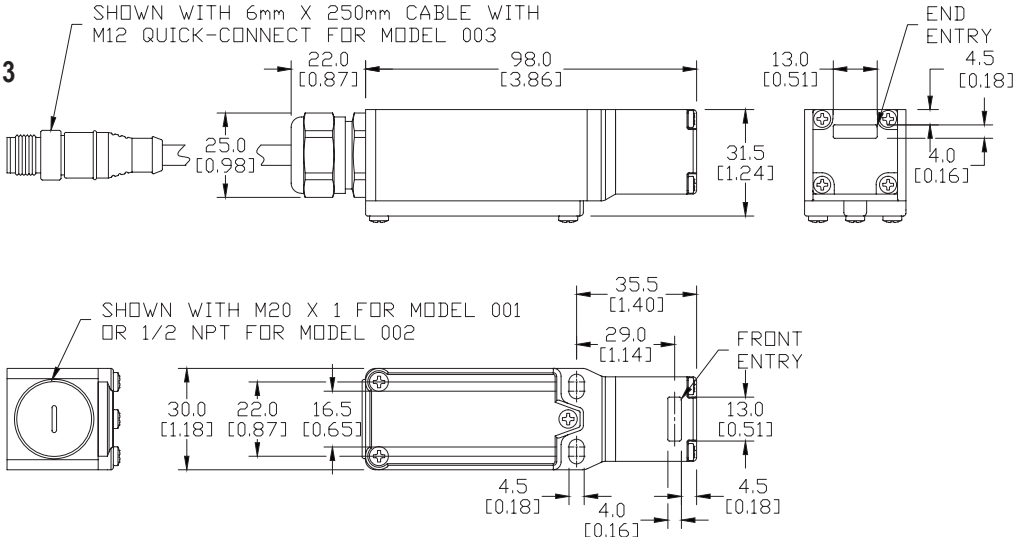


Figure 3



IDEM Interlock Safety Accessories

Actuator Keys

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

140103

140104

140105

140106

140107

140108

140109

140110

140111

140130

140179/140179-SS

140180

140181

140182

IDEM Interlock Safety Switch Actuator Tongue (Keys)										
Part Number	Price	Description	Use with:					Weight (lb)	Minimum Entry Radius	Dimensions
			IDIS-1	KP/K15	K-SS/KM/ KM-SS	INCH	MK1			
140103		14.4 mm mounting hole spacing, 90° bent stainless steel key/mounting tab	✓					0.03	175mm	Figure 1
140104		14.4 mm mounting hole spacing, straight stainless steel key/mounting tab	✓					0.03	175mm	Figure 2
140105		40mm mounting hole spacing, stainless steel key with polyester flexible mounting tab	✓					0.06	100mm	Figure 3
140106		40mm mounting hole spacing, 90° stainless steel key/ mounting tab		✓**				0.07	175mm	Figure 4
140107		40mm mounting hole spacing, 90° stainless steel key/ mounting tab		✓*	✓			0.07	175mm	Figure 5
140108		20mm mounting hole spacing, straight stainless steel key with plastic stop		✓	✓			0.07	175mm	Figure 6
140109		40mm mounting hole spacing, stainless steel key with polyester flexible mounting tab		✓	✓			0.10	100mm	Figure 7
140110		40mm mounting hole spacing, stainless steel key with black-painted aluminum flexible mounting tab		✓	✓			0.16	100mm	Figure 8
140111		40mm mounting hole spacing, stainless steel key with mirror polished stainless steel flexible mounting tab		✓	✓			0.22	100mm	Figure 9
140130		IDEM lockout actuator, stainless steel, for use with IDEM tongue (key) switches		✓	✓			0.10	NA	Figure 10
140179		IDEM key guide, 316 stainless steel. Mounting hardware included. For use with IDEM INCH series safety switches				✓				Figure 15
140179-SS		IDEM key guide, 316 stainless steel. For use with IDEM MK1 series safety switches					✓			
140180		IDEM actuator tongue (key), 8mm mounting hole spacing, 316 stainless steel, 90 degree mounting tab. For use with IDEM MK1 and INCH series safety switches				✓	✓		150mm	Figure 16
140181		IDEM actuator tongue (key), 15mm mounting hole spacing, 316 stainless steel, straight mounting tab, shock absorbing. For use with IDEM MK1 and INCH series safety switches				✓	✓			Figure 17
140182		IDEM actuator tongue (key), 40mm mounting hole spacing, 316 stainless steel, flexible mounting tab. For use with IDEM MK1 and INCH series safety switches				✓	✓		100mm	Figure 18

IDEM Interlock Safety Accessories

Dimensions

mm[in]

Figure 13

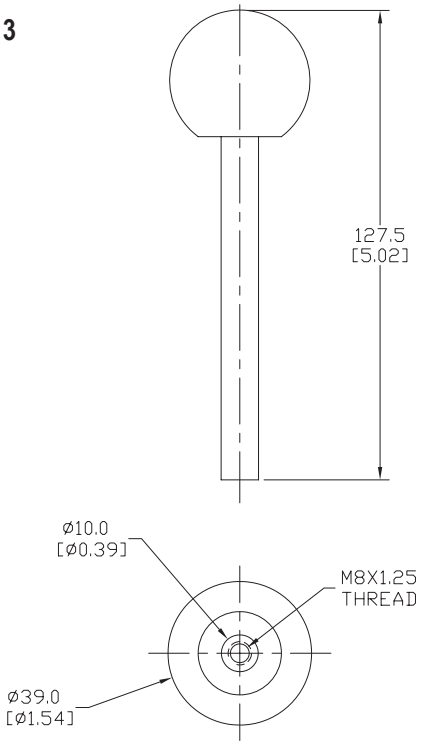


Figure 14

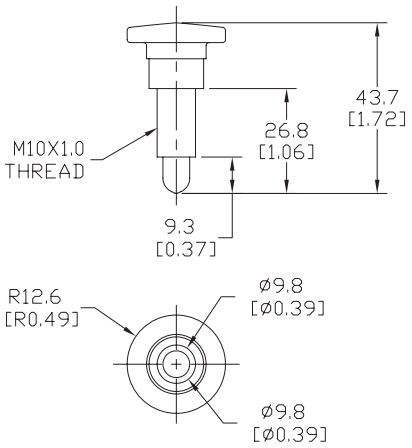


Figure 15

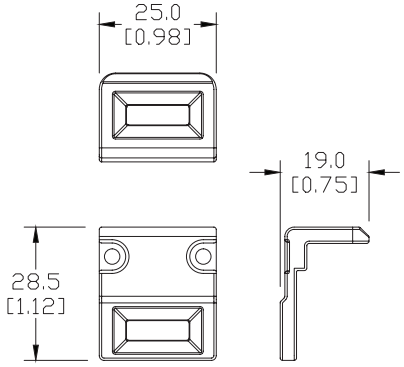


Figure 16

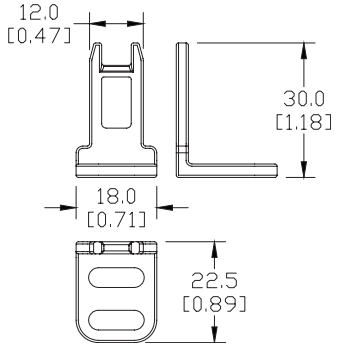


Figure 17

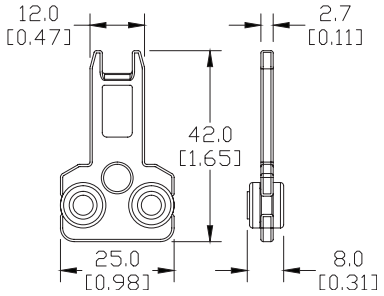
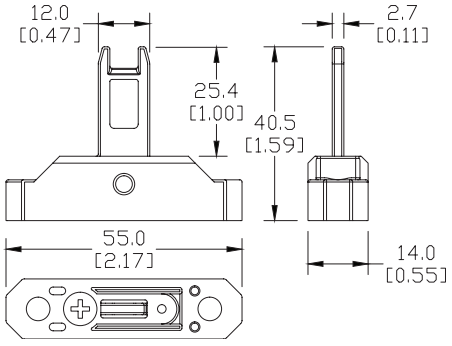


Figure 18

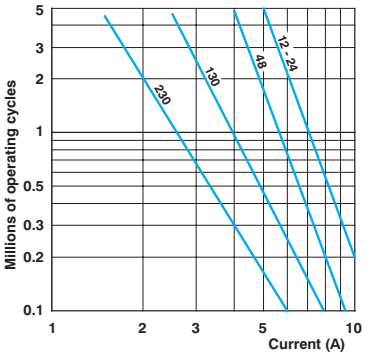


IDEM Interlock Safety Switches Specifications

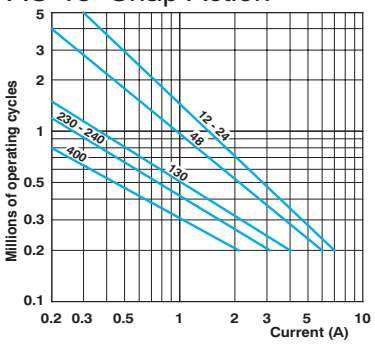
Specifications							
	IDIS	***KM***	***KP/K-SS***	***K-15***	***GLM/GLS***	***INCH/MK1***	***HC***
Safety Classification and Reliability Data							
Switching Reliability (B10d)	2.5 x 106 operations at 100mA load						
ISO 13849-1	Up to PLe depending upon system architecture						
EN 62061	Up to SIL3 depending upon system architecture						
Safety Data - Annual Usage	8 cycles per hour / 24 hours per day / 365 days						
Agency Approvals	cULus (E258676), CE, TUV (rope pull switches)						
Electrical and General Specifications							
Conductor Sizes	16-12 AWG (1.5 to 2.5 mm2)						
Utilization Category	AC15, A300, 3A						
Thermal Current	10A						
Short Circuit Overload Protection	External 10A Fast Acting recommended						
Rated Insulation Voltage	500 VAC					600 VAC	
Contact Terminals	Stainless steel (Snap action Plated Brass); Max conductor 1.5 m2 (IDIS), 2.5 m2 (KM, K/K-15); 1 Nm torque						
Max. Switching Current	2.5A @24 VDC 6A @ 120VAC, 3A @ 240VDC (720VA Break)						
Maximum Approach/Withdrawal Speed	600mm/s						
Enclosure Protection	IP67 (IP69K on all models with both stainless steel head and body)					IP67 Plastic or IP69K Stainless Steel 316	
Operating Temperature	-25C to 80C / -13F to 176F						
Vibration	IEC 68-2-6, 10-55Hz+1Hz						
Lid Screws/Torque	Plated Brass;1Nm (0.74 lb-ft)	Stainless Steel; T20 Torx; 1Nm (0.74 lb-ft)	Stainless Steel;1Nm 0(.74 lb-ft)		Stainless Steel; T20 Torx; 1Nm (0.74 lb-ft)	Stainless Steel;1Nm (0.74 lb-ft)	
Recommended Mounting Screws/ Torque	M4; 1.5 Nm (1.11 lb-ft)	M5; 4Nm (2.95 lb-ft)				M4; 1.5 Nm (1.11 lb-ft)	
Head Screws/Torque	Stainless Steel, except snap (Plated Brass);1Nm (0.74 lb-ft)	Stainless Steel; T20 Torx; 1Nm (0.74 lb-ft)	Stainless Steel; 1Nm (0.74 lb-ft)				

Electrical Durability
(according to IEC 947-5-1)

AC-15 Slow Action



AC-15 Snap Action



IDEM Interlock/Hinge Safety Travel Charts

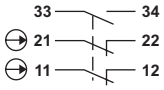
Interlock Safety Switch Types

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

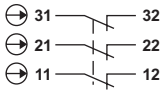
Snap-action contact: A contact element in which the contact motion is independent of the speed of the actuator. This feature ensures reliable electrical performance even in applications involving very slow moving actuators.

Contacts Configuration

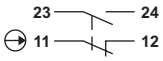
1 N.O. and 2 N.C.
Slow-make/ slow-break contacts



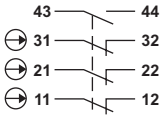
3 N.C.
Slow-make/ slow-break contacts



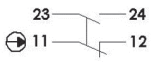
1 N.O. and 1 N.C.
Snap action contacts



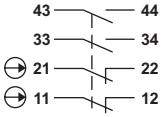
1 N.O. and 3 N.C.
Slow-make/ slow-break contacts



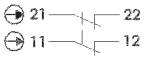
1 N.O. and 1 N.C.
Slow-make/ slow-break contacts



2 N.O. and 2 N.C.
Slow-make/ slow-break contacts



2 N.C.
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

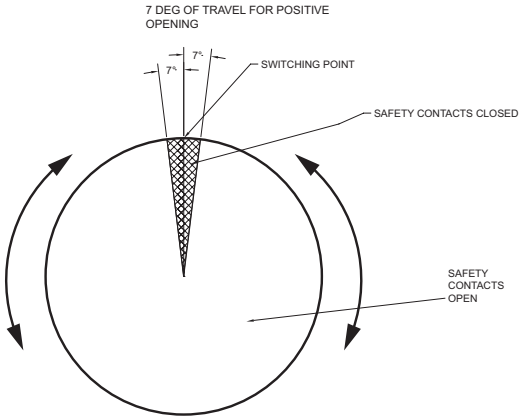
2NC 2NO — 6.8, 6.0, 0 mm

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 N.O./2 N.C.***	***1 N.O./3 N.C.***	***2 N.O./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		

130N Force

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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