

IDEM Inch Hinge Safety Switches

Inch Hinge Series Housing

- Shaft hinge (Idem Inch Hinge) interlock operated
- M16, M20, 1/2" NPT threaded opening or M12 connection
- 16.5 mm- 18mm mounting profile (Inch-X); 16.5 mm- 22mm mounting profile (MK-1)
- 25mm plastic, 30mm stainless steel housings

- Compact body
- Plastic and stainless steel housings
- 90 degree adjustable head
- Force guided NC contacts

See electrical specifications later in this section.

IDEM Inch Hinge Series

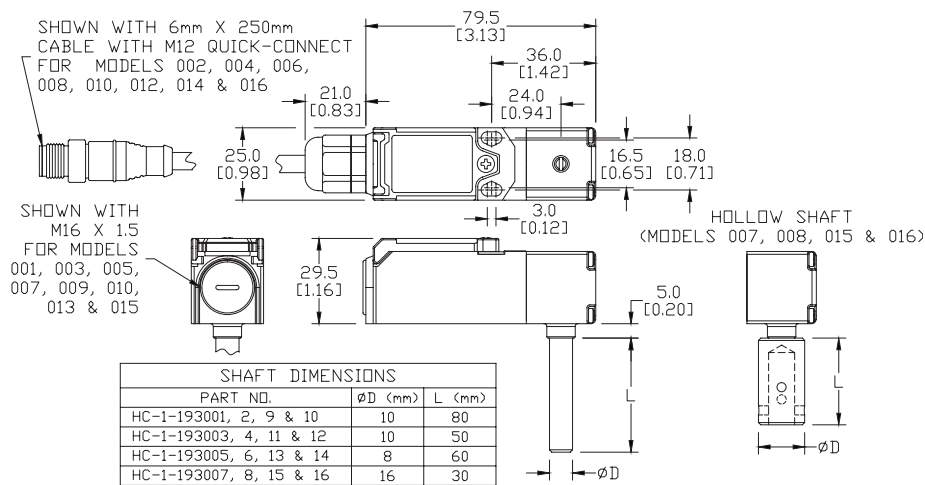


IDEM Inch Hinge Safety Switches									
Part Number	Price	Body Material	Head Material	Weight (lb)	Actuator Travel / Force for Positive Opening	Contact Configuration	Shaft Size	Connection	Dimensions
HC-1-193001		Plastic	316 stainless steel	0.29	7 degrees/0.5N	2 N.C. Slow action	Solid diameter 10mm x 80mm	1 x M16	Figure 1
HC-1-193002		Plastic	316 stainless steel	0.32	7 degrees/0.5N	2 N.C. Slow action	Solid diameter 10mm x 80mm	M12 Quick disconnect	Figure 1
HC-1-193003		Plastic	316 stainless steel	0.29	7 degrees/0.5N	2 N.C. Slow action	Solid diameter 10mm x 50mm	1 x M16	Figure 1
HC-1-193004		Plastic	316 stainless steel	0.32	7 degrees/0.5N	2 N.C. Slow action	Solid diameter 10mm x 50mm	M12 Quick disconnect	Figure 1
HC-1-193005		Plastic	316 stainless steel	0.29	7 degrees/0.5N	2 N.C. Slow action	Solid diameter 8mm x 60mm	1 x M16	Figure 1
HC-1-193006		Plastic	316 stainless steel	0.32	7 degrees/0.5N	2 N.C. Slow action	Solid diameter 8mm x 60mm	M12 Quick disconnect	Figure 1
HC-1-193007		Plastic	316 stainless steel	0.29	7 degrees/0.5N	2 N.C. Slow action	Hollow diameter 16mm x 30mm	1 x M16	Figure 1
HC-1-193008		Plastic	316 stainless steel	0.32	7 degrees/0.5N	2 N.C. Slow action	Hollow diameter 16mm x 30mm	M12 Quick disconnect	Figure 1

Dimensions

mm [in]

Figure 1
[HC-1](#)



IDEM Inch Hinge Safety Switches

Inch Hinge Series Housing

IDEM Inch Hinge Safety Switches									
Part Number	Price	Body Material	Head Material	Weight (lb)	Actuator Travel / Force for Positive Opening	Contact Configuration	Shaft Size	Connection	Dimensions
HC-3 Hinge Interlock Safety Switch									
HC-3-194001									
HC-3-194002									
HC-3-194003									
HC-3-194004									
HC-3-194005									
HC-3-194006									
HC-3-194007									
HC-3-194008									

These parts have been retired. No replacement available.

IDEM Inch Hinge Safety Switches									
Part Number	Price	Body Material	Head Material	Weight (lb)	Actuator Travel / Force for Positive Opening	Contact Configuration	Shaft Size	Connection	Dimensions
HC-SS Hinge Interlock Safety Switch									
HC-SS-195001									
HC-SS-195002									
HC-SS-195003									
HC-SS-195004									
HC-SS-195005									
HC-SS-195006									
HC-SS-195007									
HC-SS-195008									
HC-SS-195009									
HC-SS-195010									
HC-SS-195011									
HC-SS-195012									

These parts have been retired. No replacement available.

IDEM Inch Hinge Safety Switches

Dimensions

mm [in]

Figure 1

HC-1

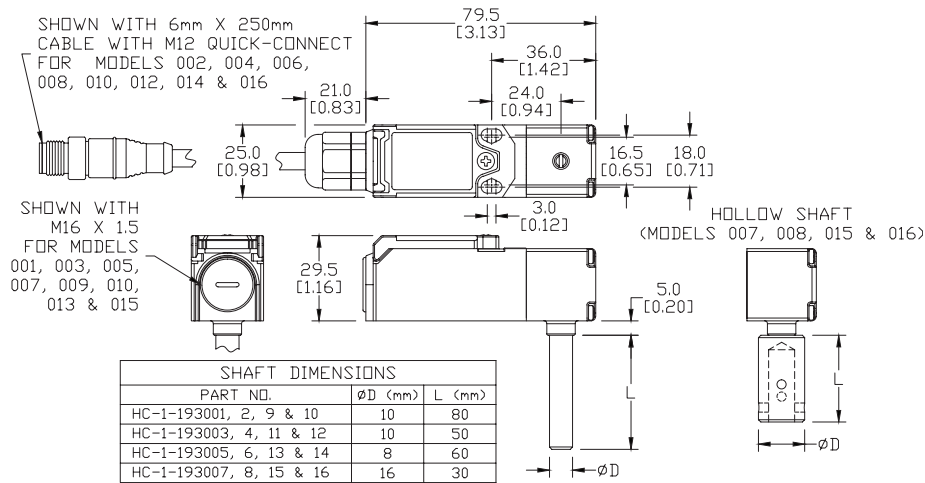


Figure 2

HC-3

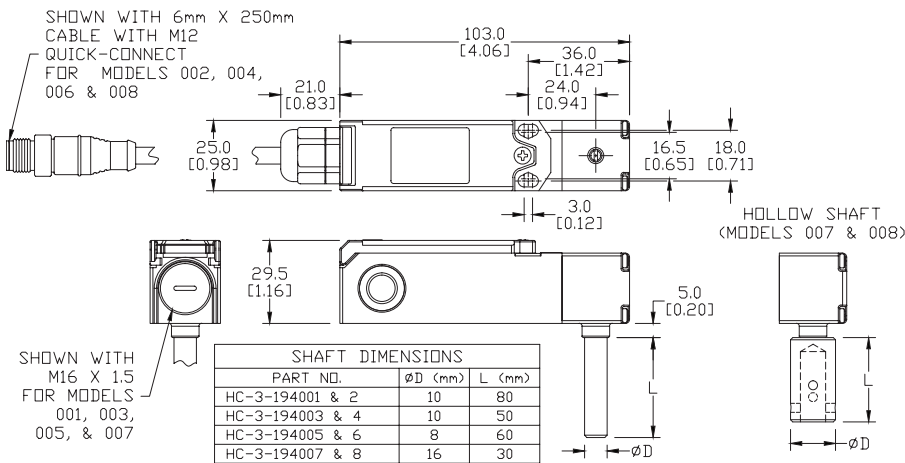
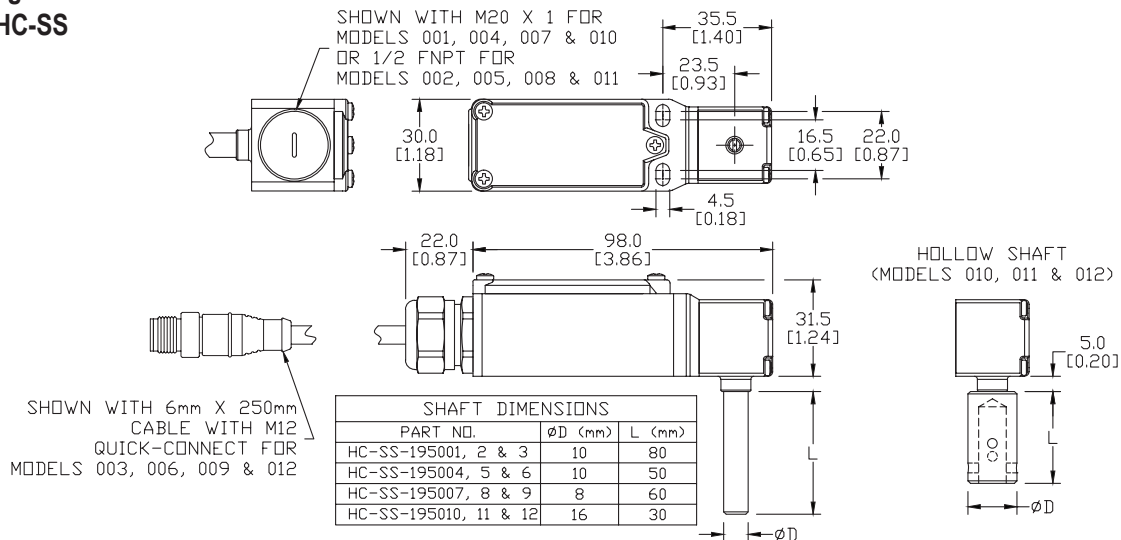


Figure 3

HC-SS



IDEM Interlock Safety Accessories

Actuator Keys

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



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				✓				150mm	Figure 15
140179-SS		IDEM key guide, 316 stainless steel. For use with IDEM MK1 series safety switches					✓				100mm
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				✓	✓		100mm	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				✓	✓	Figure 18			

IDEM Interlock Safety Accessories

Dimensions

mm[in]

Figure 13

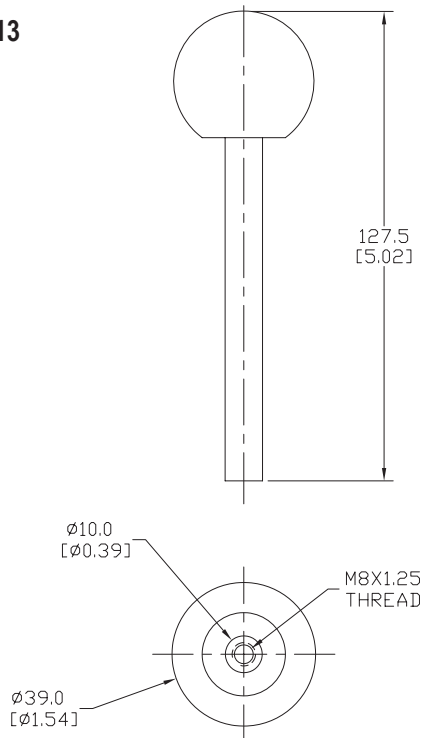


Figure 14

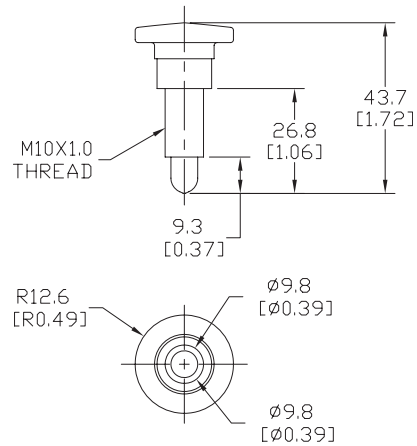


Figure 15

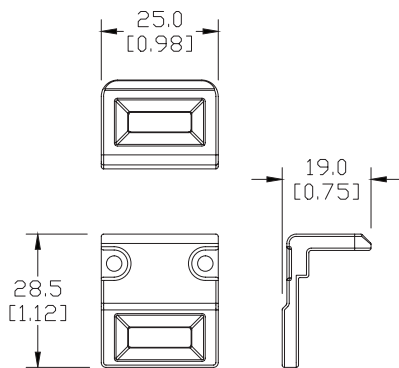


Figure 16

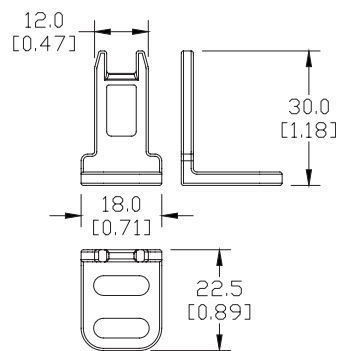


Figure 17

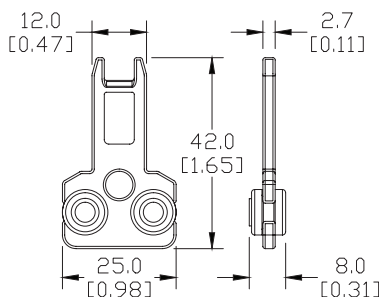
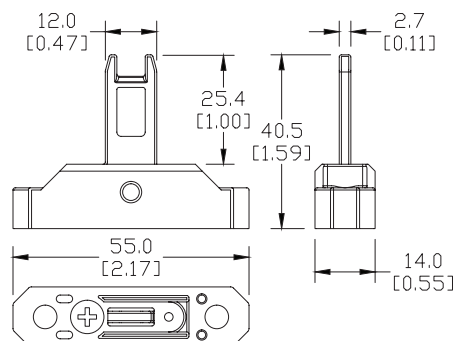


Figure 18

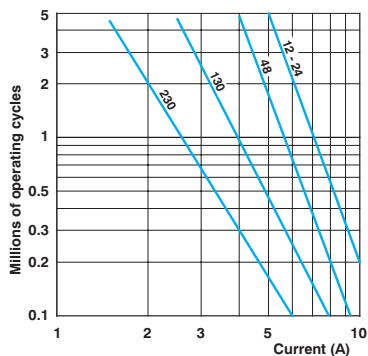


IDEM Interlock Safety Switches Specifications

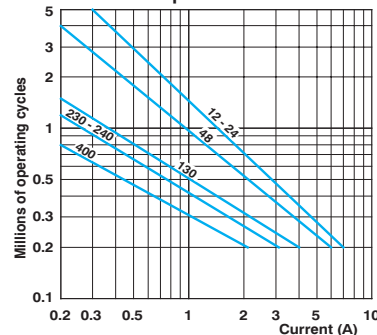
Specifications							
	IDIS	KM	KP/K-SS	K-15	GLM/GLS	INCH/MK1	HC
Safety Classification and Reliability Data							
Switching Reliability (B10d)	2.5 x 10 ⁶ operations at 100mA load						
ISO 13849-1	Up to PLe depending upon system architecture						
EN 62061	Up to SIL3 depending upon system architecture						
Safety Data - Annual Usage	8 cycles per hour / 24 hours per day / 365 days						
Agency Approvals	cULus (E258676), CE, TUV (rope pull switches)						
Electrical and General Specifications							
Conductor Sizes	16-12 AWG (1.5 to 2.5 mm ²)						
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 m ² (IDIS), 2.5 m ² (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

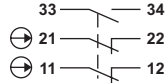
Interlock Safety Switch Types

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

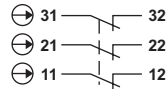
Snap-action contact: A contact element in which the contact motion is independent of the speed of the actuator. This feature ensures reliable electrical performance even in applications involving very slow moving actuators.

Contacts Configuration

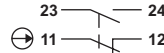
1 N.O. and 2 N.C.
Slow-make/ slow-break contacts



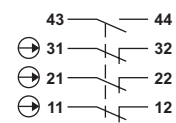
3 N.C.
Slow-make/ slow-break contacts



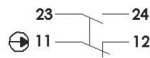
1 N.O. and 1 N.C.
Snap action contacts



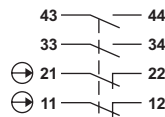
1 N.O. and 3 N.C.
Slow-make/ slow-break contacts



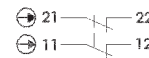
1 N.O. and 1 N.C.
Slow-make/ slow-break contacts



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



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



Travel Charts



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

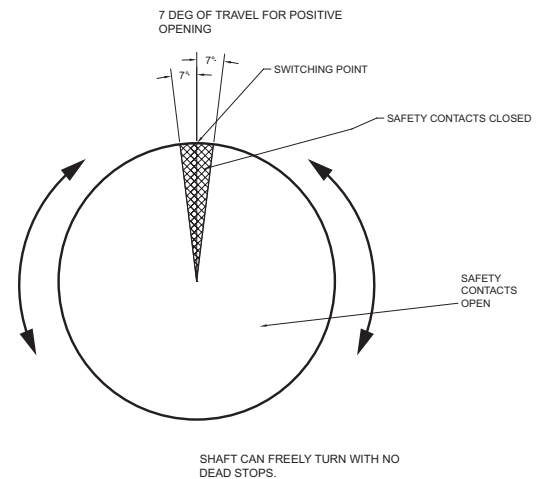
2NC 2NO 6.8 6.0 0 mm

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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