

IDEM Solenoid Interlock Safety Switches

KLP/KLM/KL3-SS Series Housing

- Solenoid locking, tongue (key) interlock operated
- Power to unlock
- 90 degree adjustable head
- One (KLP) or three (KLM, KL3-SS) 1/2 in. female NPT conduit opening
- 30mm mounting profile
- Slotted manual release on lid and side (KLP/KLM) or anti-tamper keyed manual release on lid and side (KL3-SS)
- Includes one tamper-proof T20 Torx bit
- Purchase actuating key and anti-tamper manual release key separately (See Accessories)

KLP-201002
KLM-202002
KL3-SS-205002



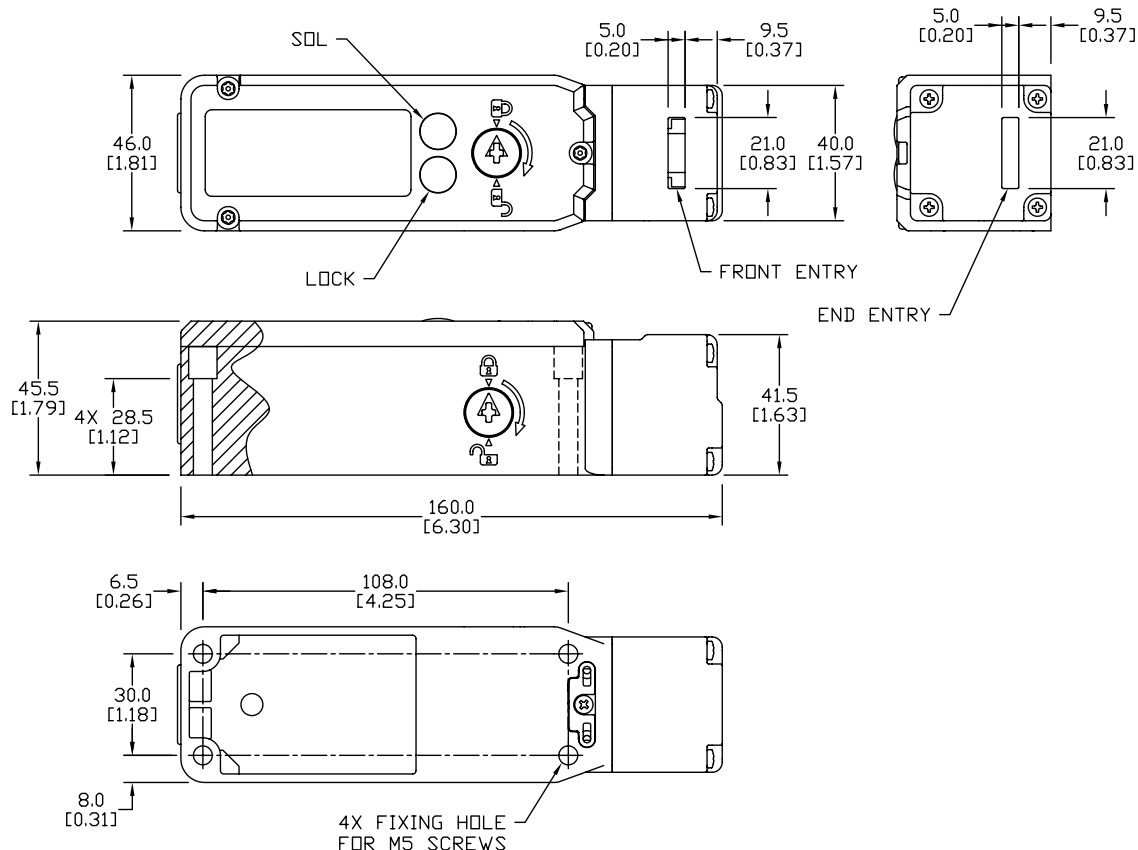
See electrical specifications later in this section.

IDEM KLP/KLM/KL3-SS Series Solenoid Interlock Safety Switches										
Part Number	Price	Body Material	Head Material	Weight (lbs)	Actuator Travel / Force for Positive Opening	Holding Force	Solenoid Voltage ($\pm 10\%$)	LED	Contact Configuration	Dimensions
<u>KLP-201002</u>	\$226.00	Polyester plastic	316 stainless steel	1.4	10mm	1800N	24 VAC/DC	1 Solenoid Status	2 NC safety contacts (1) selectable output (1 NO auxiliary contact or LED for lock status) 1 NO auxiliary contact for actuator tongue (key) status	Figure 1
<u>KLP-201005</u>	\$231.00						110VAC			
<u>KLM-202002</u>	\$251.00	Die-cast aluminum	Die-cast aluminum	1.9	10mm	2000N	24 VAC/DC	1 Optional Lock Status	4 NC safety contacts (1) selectable output (1 NO auxiliary contact or LED for lock status) 1 NO auxiliary contact for actuator tongue (key) status	Figure 2
<u>KLM-202005</u>	\$256.00						110VAC			
<u>KL3-SS-205002</u>	\$580.00	316 stainless steel	316 stainless steel	2.9	10mm	2000N	24 VAC/DC		1 NO auxiliary contact for actuator tongue (key) status	Figure 3
<u>KL3-SS-205005</u>	\$587.00						110VAC			

Dimensions

mm [in]

Figure 1



IDEM Solenoid Interlock Safety Switches

Dimensions

mm [in]

Figure 2

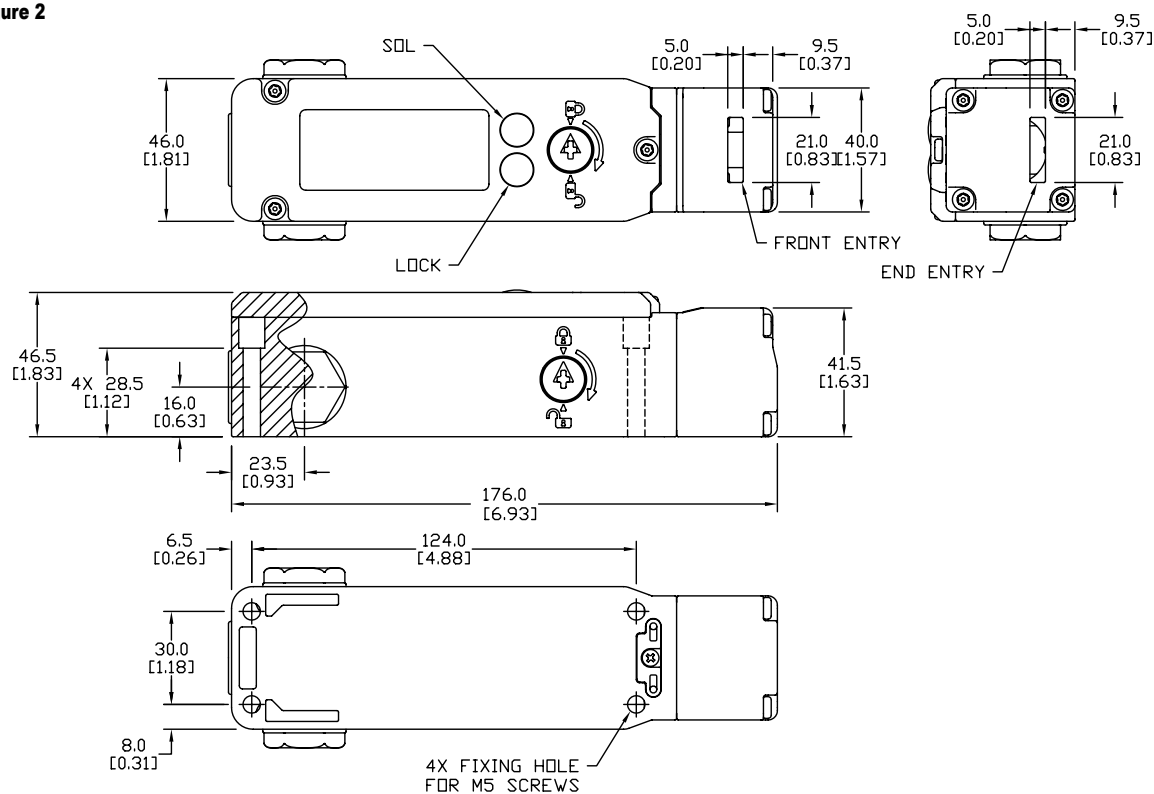
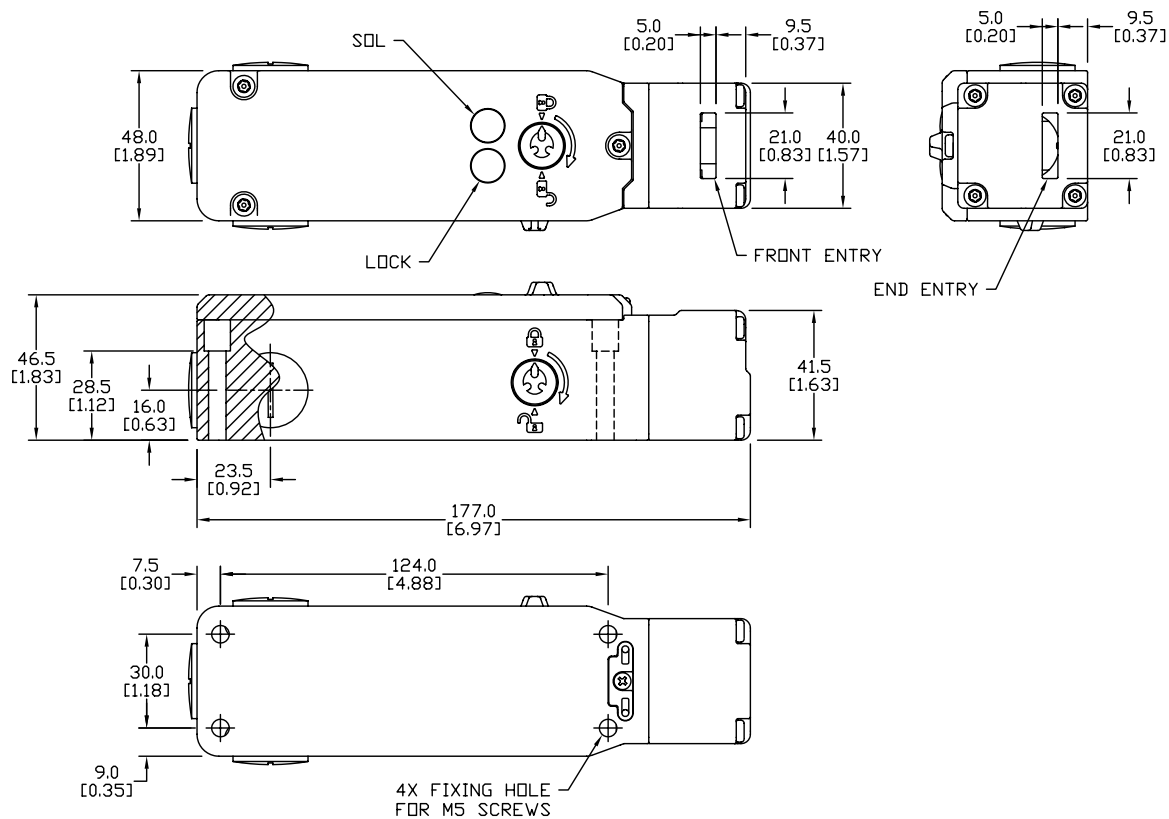


Figure 3



IDEM Solenoid Interlock Safety Switches

KL1-P/KL1-SS Series Housing

KL1-P-221302
KL1-SS-220002

- Solenoid locking, tongue (key) interlock operated
- Power to unlock
- 180 degree adjustable head
- One 1/2 in. NPT female conduit opening
- Slotted manual release on lid and side
- 40mm mounting profile
- Purchase actuating key separately (See Accessories)

See electrical specifications later in this section.



IDEM KL1-P/KL1-SS Series Solenoid Interlock Safety Switches										
Part Number	Price	Body Material	Head Material	Weight (lbs)	Actuator Travel / Force for Positive Opening	Holding Force	Solenoid Voltage	LED	Contact Configuration	Dimensions
KL1-P-221002	\$220.00	Polyester plastic	316 stainless steel	1.4	10mm	1400N	24 VAC/DC	1 solenoid status	2 NC safety contacts 2 NO auxiliary contacts	Figure 1
KL1-P-221005	\$225.00			1.3			110VAC			
KL1-P-221302	\$220.00	Polyester plastic	316 stainless steel	1.4	10mm	1400N	24 VAC/DC	1 solenoid status 1 optional lock status	2 NC safety contacts 1 NO auxiliary contact for actuator tongue (key) status	Figure 1
KL1-P-221305	\$225.00			1.3			110VAC			
KL1-SS-220002	\$425.00	316 stainless steel	316 stainless steel	2.5	10mm	1600N	24 VAC/DC	1 solenoid status	2 NC safety contacts 2 NO auxiliary contacts	Figure 2
KL1-SS-220005	\$430.00						110VAC			
KL1-SS-220302	\$425.00	316 stainless steel	316 stainless steel	2.5	10mm	1600N	24 VAC/DC	1 solenoid status 1 optional lock status	2 NC safety contacts 1 NO auxiliary contact for actuator tongue (key) status	Figure 2

IDEM Solenoid Interlock Safety Switches

Dimensions

mm [in]

Figure 1

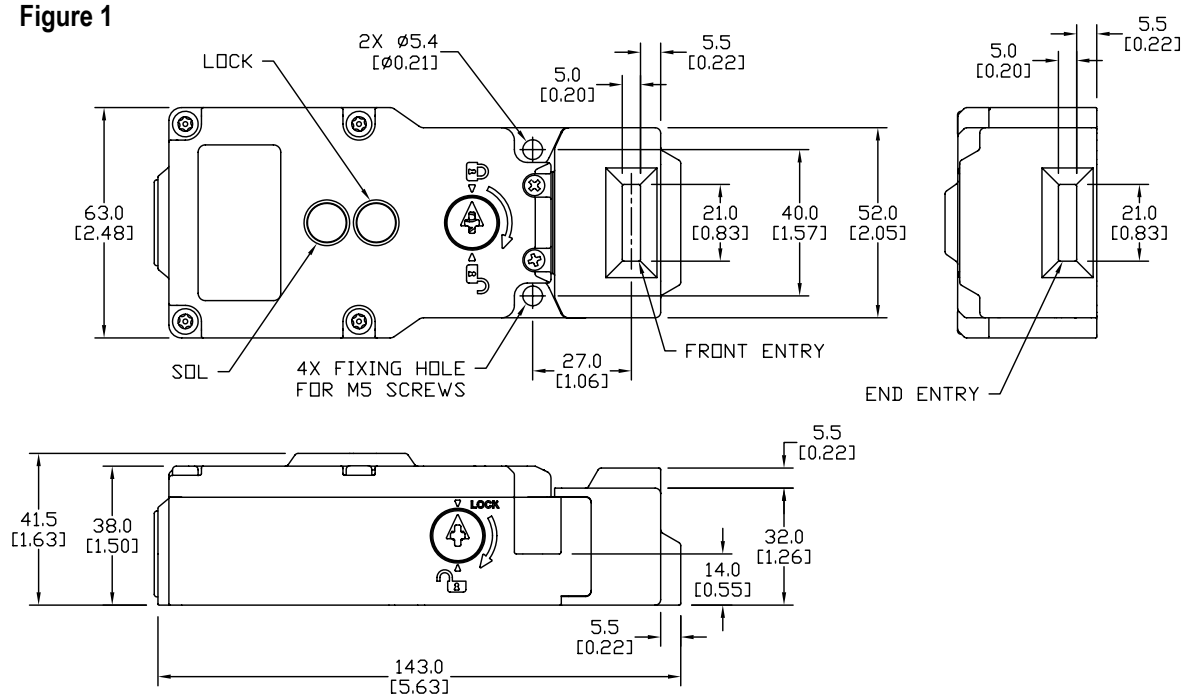
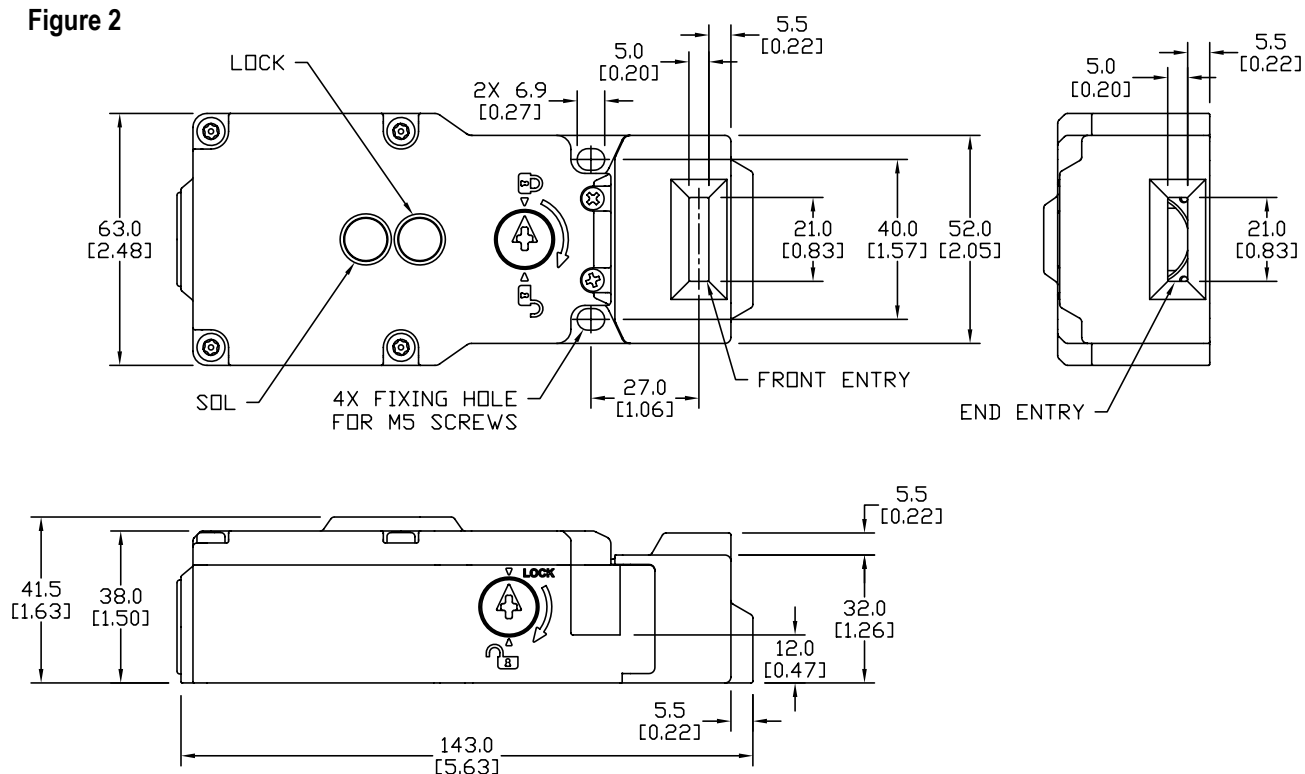


Figure 2



IDEM Solenoid Interlock Safety Switches

KLTM/KLT-SS Series Housing

- Solenoid locking, tongue (key) interlock operated
- Power to unlock
- 180 degree adjustable head
- One (KLTM) or three (KLT-SS) 1/2 in. NPT female conduit opening
- 73mm mounting profile

- Slotted manual release on lid and side (KLTM) or anti-tamper keyed manual release on lid and side (KLT-SS)
 - Includes one tamper-proof T20 Torx bit
 - Purchase actuating key and anti-tamper manual release key separately (See accessories)
- See electrical specifications later in this section.*

KLTM-450002
KLT-SS-451002



IDEM KLTM/KLT-SS Series Solenoid Interlock Safety Switches										
Part Number	Price	Body Material	Head Material	Weight (lb)	Actuator Travel for Positive Opening	Holding Force	Solenoid Voltage	LED	Contact Configuration	Dimensions
<u>KLTM-450002</u>	\$246.00	Die-cast aluminum	316 stainless steel	2.7	10mm	2000N	24 VAC/DC	1 solenoid status 1 optional lock status	4 NC safety contacts 1 NO auxiliary contact for actuator tongue (key) status	Figure 1
<u>KLTM-450005</u>	\$250.00			2.6			110VAC			Figure 2
<u>KLT-SS-451002</u>	\$482.00	316 stainless steel	316 stainless steel	4.7			24 VAC/DC			

IDEM Solenoid Interlock Safety Switches

Dimensions

mm [in]

Figure 1

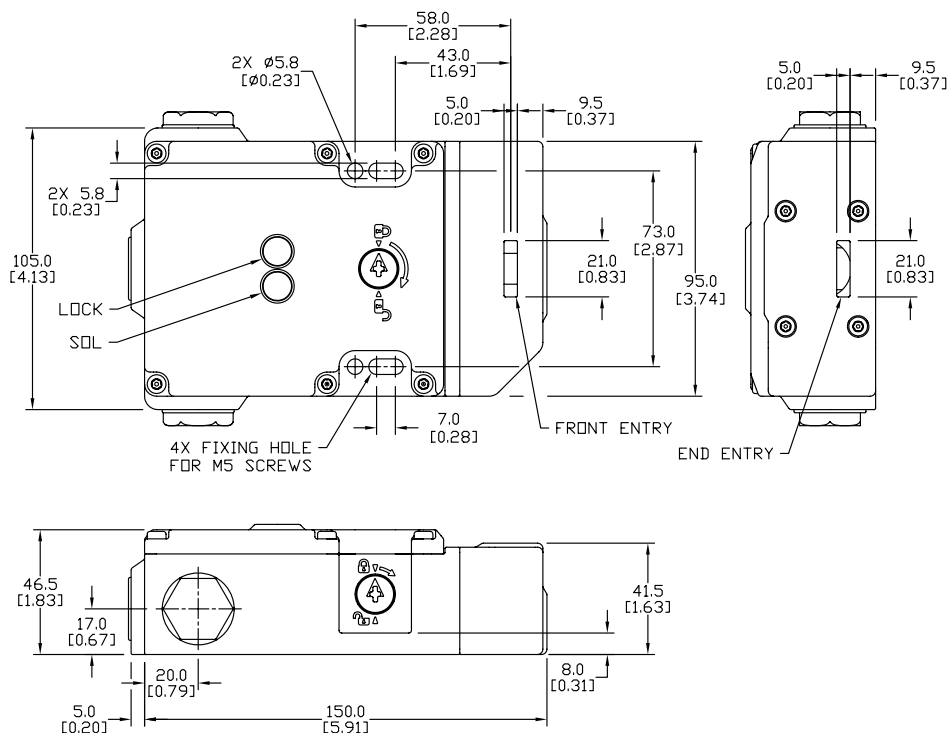
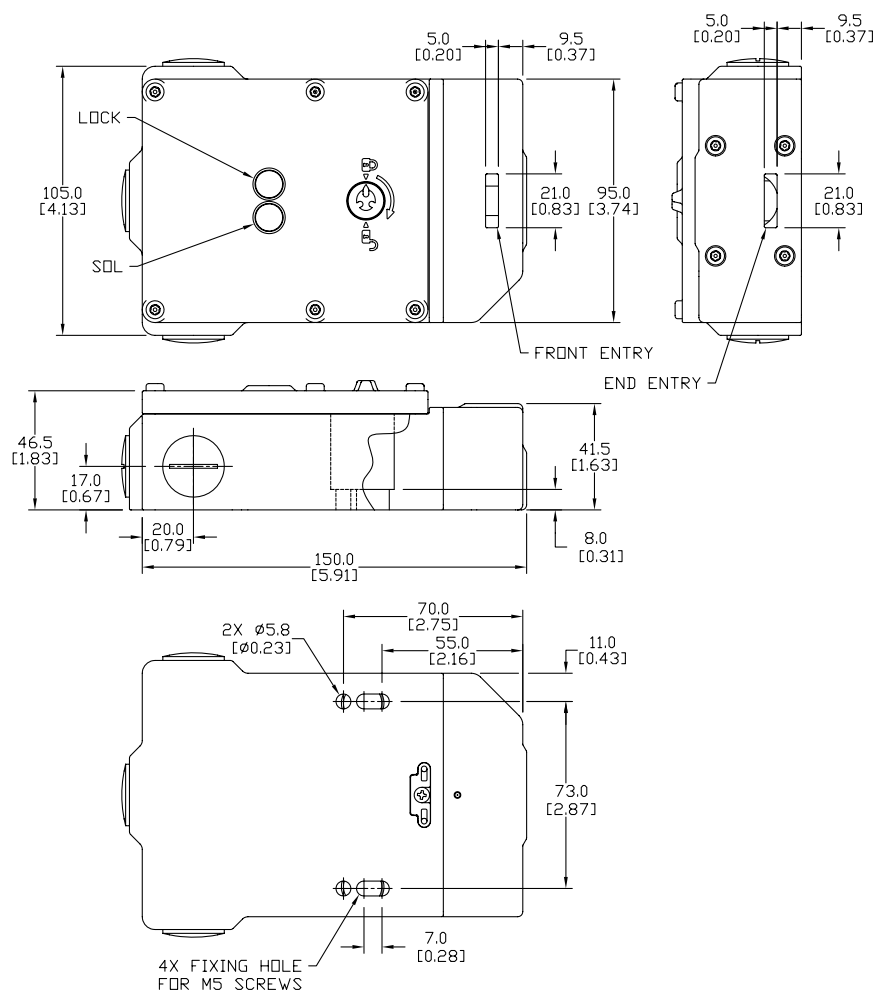


Figure 2

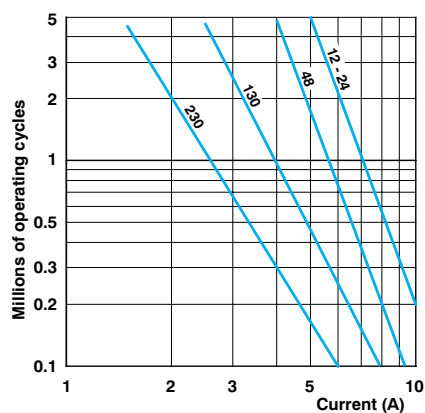


IDEM Solenoid Interlock Safety Switches Specifications

Solenoid Interlock Safety Switches Specifications			
	KLP/KLM/KL3-SS	KL1-P/KL1-SS	KLTM/KLT-SS
Safety Classification and Reliability Data			
Switching Reliability (B10d)	2.5M operations at 100mA load		
EN 954-1	Up to Category 4 with Safety Relay		
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		
MTTFd	356 years		
Agency Approvals	cULus E258676, CE		
Electrical and General Specifications			
Utilization Category	AC15, A300,3A max		
Thermal Current	5A		3A
Short Circuit Overload Protection	External 10A Fast Acting recommended		
Rated Insulation Voltage	500VAC		
Contact Terminals	Plated Brass, Max conductor 1mm2, 16AWG; 0.7 Nm torque		
LED2 Voltage	24VDC		
Solenoid Wattage	12W		
Solenoid Voltage	24 VAC/VDC or 110VAC or 230VAC		
Max. Switching Current	Safety contacts 2.5A @24VDC, 6A @ 120VAC, 3A @ 240VDC (720VA Break); Auxiliary contacts max 230V@0.5A		
Maximum Approach/Withdrawal Speed	1000 mm/s	600 mm/s	
Enclosure Protection	IP67 (IP69K on all models with both stainless steel head and body)		
Operating Temperature	-25°C – 55°C [-13°F – 131°F]		-25°C to 40°C [-13°F to 104°F]
Vibration	IEC 68-2-6, 10–55 Hz + 1Hz		
Lid Screws/Torque	Stainless Steel; T20 Torx; 1.5 Nm (1.11 lb-ft)	Stainless Steel; T20 Torx; 1Nm (0.74 lb-ft)	Stainless Steel; T20 Torx; 1.5 Nm (1.11 lb-ft)
Recommended Mounting Screws/Torque	M5; 4Nm (2.95 lb-ft)		
Head Screws/Torque	Stainless Steel, T20 Torx (KL3-SS only); 1.5 Nm (1.11 lb-ft)	Stainless Steel; T20 Torx; 1.5 Nm (1.11 lb-ft)	Stainless Steel; T20 Torx; 1Nm (0.74 lb-ft)

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

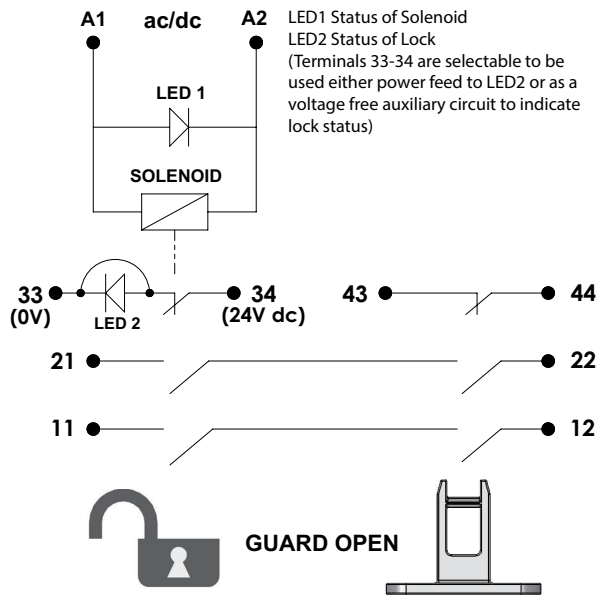
AC-15 Slow Action



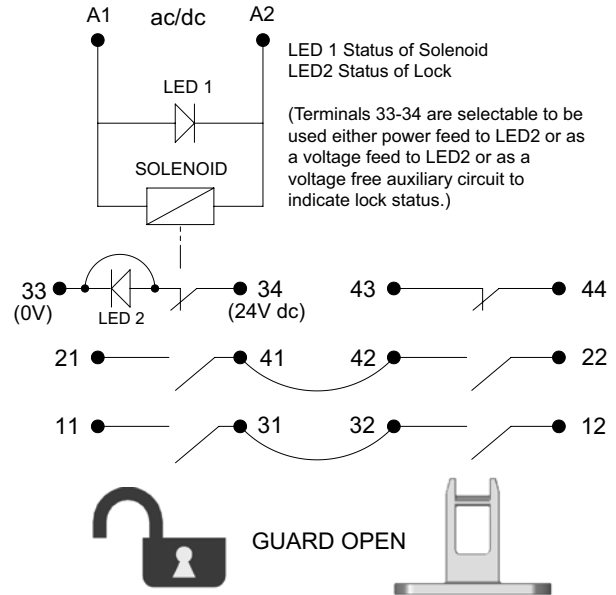
IDEM Solenoid Interlock Travel Charts

Contacts Configuration

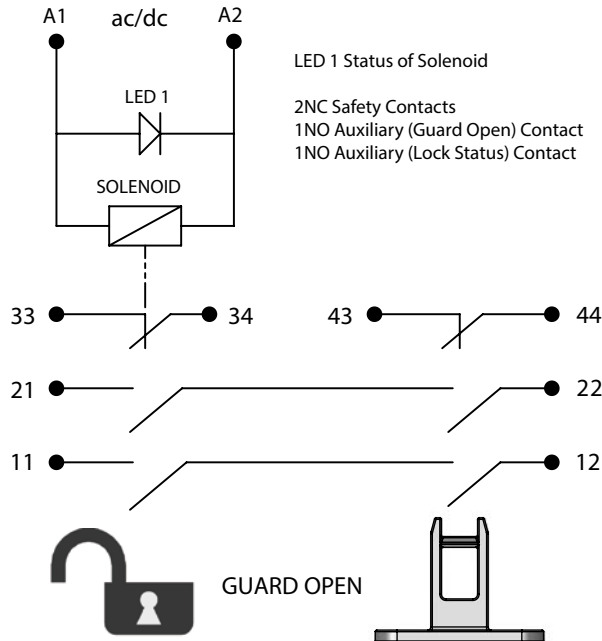
KLP



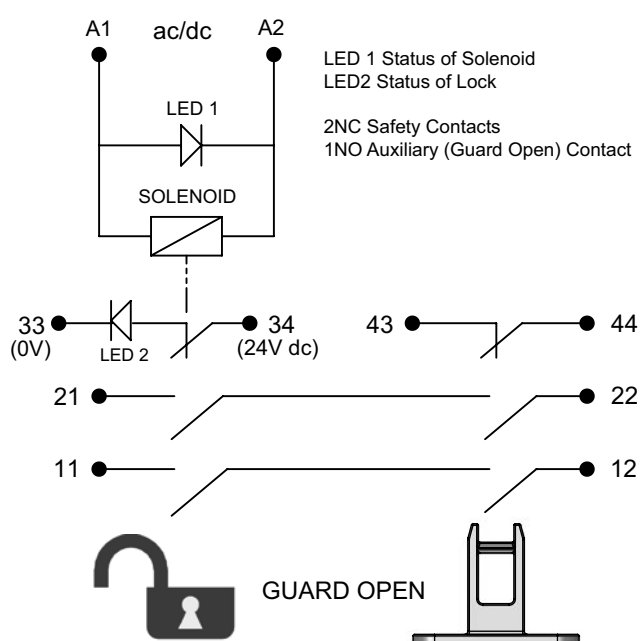
KLM/KL3-SS/KLTM/KLT-SS



KL1-P/KL1-SS (Standard)



KL1-P/KL1-SS (Extra LED2)



Travel Charts

Actuator Insertion

6.0 5.0 0 mm

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

Contact Open
Contact Closed

For all IDEM switches, the normally closed (NC) circuits are closed when the guard is closed with actuator inserted.

IDEM Solenoid Interlock Accessories

Actuators

- 4 available keys
- All keys are 316 stainless steel
- Flexible key options available
- Lockout actuator available

140107**140108****140110****140111****140130****140123**

IDEM Interlock Safety Switch Actuator Tongue (Keys)

Part Number	Price	Description	Use with:		Weight (lbs)	Minimum Entry Radius	Dimensions
			KLP/KLM/KL1/KLTM	KL3-SS/KLT-SS			
140107	\$11.00	40mm mounting hole spacing, 90 degree stainless steel key/ mounting tab	✓	✓	0.07	175mm	Figure 1
140108	\$10.50	20mm mounting hole spacing, straight stainless steel key with plastic stop	✓	✓	0.07	175mm	Figure 2
140110	\$38.50	40mm mounting hole spacing, stainless steel key with black-painted aluminum flexible mounting tab	✓	✓	0.16	100mm	Figure 3
140111	\$78.00	40mm mounting hole spacing, stainless steel key with mirror polished stainless steel flexible mounting tab	✓	✓	0.22	100mm	Figure 3
140130	\$54.00	IDEM lockout actuator, stainless steel, for use with all IDEM tongue (key) switches	✓	✓	0.10	NA	Figure 4
140123	\$21.50	IDEM anti-tamper manual release key, for use with KL3 and KLT series safety switches		✓	0.05	NA	Figure 5

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 35mm mounting screws (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

GBL-1-210001**GBL-1-210002****GB-210005****GB-210006**

IDEM Interlock Safety Switch Accessories

Part Number	Price	Description	Use with:		Weight (lb)	Dimensions
			KLP/KLM	GBL-1		
GBL-1-210001	\$140.00	IDEM gate bolt, left hand version, for use with KLP and KLM series safety switches. Includes actuating tongue (key).	✓		4.12	Figure 6
GBL-1-210002	\$140.00	IDEM gate bolt, right hand version, for use with KLP and KLM series safety switches. Includes actuating tongue (key).	✓		4.12	Figure 7
GB-210005	\$19.50	IDEM rear escape handle, for use with GBA-1 and GBL-1 series gate bolts		✓	0.1	Figure 8
GB-210006	\$19.50	IDEM spring loaded catch, for use with GBA-1 and GBL-1 series gate bolts		✓	0.08	Figure 9

IDEM Solenoid Interlock Safety Accessories

Dimensions

mm [in]

Figure 1

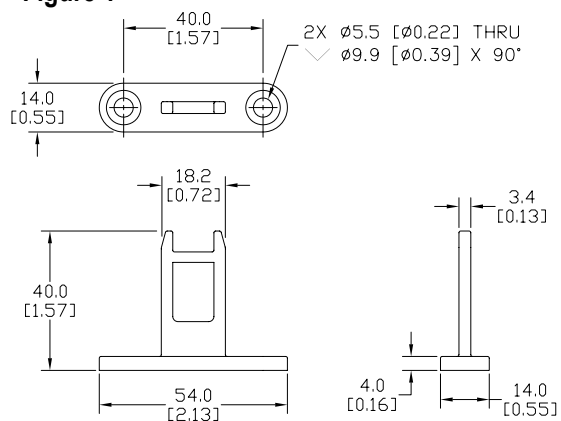


Figure 2

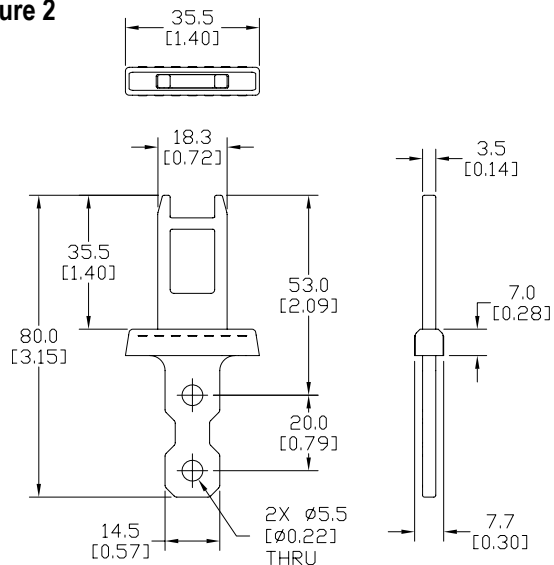
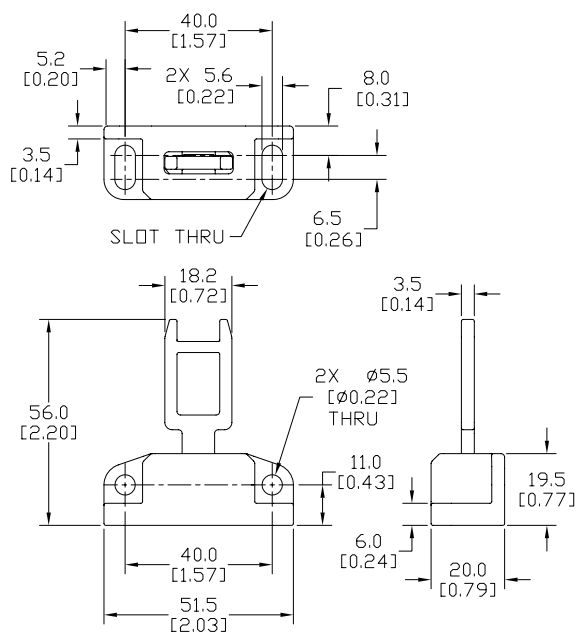


Figure 3



mm [in]

Figure 4

Technical drawing of a multi-hole plate. The drawing shows a top view and a side view. The top view is a rectangular plate with a central vertical slot. The dimensions are as follows:

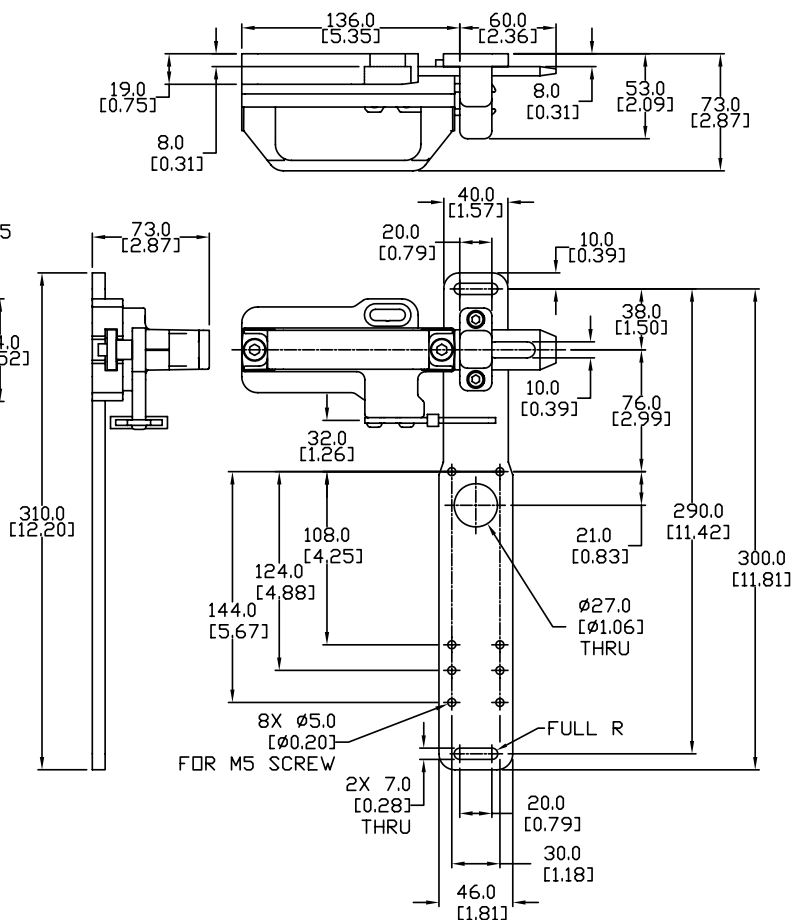
- Overall width: 32.8 [1.29]
- Distance from center to the outer edge of the top flange: 18.0 [0.71]
- Distance from center to the outer edge of the bottom flange: 7.0 [0.27]
- Distance from center to the center of the top hole: 11.7 [0.46]
- Distance from center to the center of the bottom hole: 37.3 [1.47]
- Distance from center to the center of the middle hole: 45.4 [1.79]
- Distance from center to the center of the bottom hole: 72.2 [2.84]
- Distance from center to the center of the bottom hole: 79.4 [3.13]
- Distance from center to the center of the bottom hole: 15.0 [0.59]
- Distance from center to the center of the bottom hole: 20.8 [0.82]

The holes are labeled with their diameters and tolerances:

- 2X $\varnothing 8.0$ [$\varnothing 0.31$]
- 2X $\varnothing 7.0$ [$\varnothing 0.28$]
- 2X $\varnothing 6.0$ [$\varnothing 0.24$]
- 2X $\varnothing 5.0$ [$\varnothing 0.20$]

Figure 5

Technical drawing of a bolt and nut assembly. The drawing includes a side view of the bolt with dimensions 4.6 [0.18] and 12.5 [0.49]. The nut has a height of 23.5 [0.92]. The bolt has a diameter of 14.3 [0.56]. The nut has a hexagonal base with a width of 6.2 [0.24].

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IDEM Solenoid Interlock Safety Accessories

Dimensions

mm [in]

Figure 7

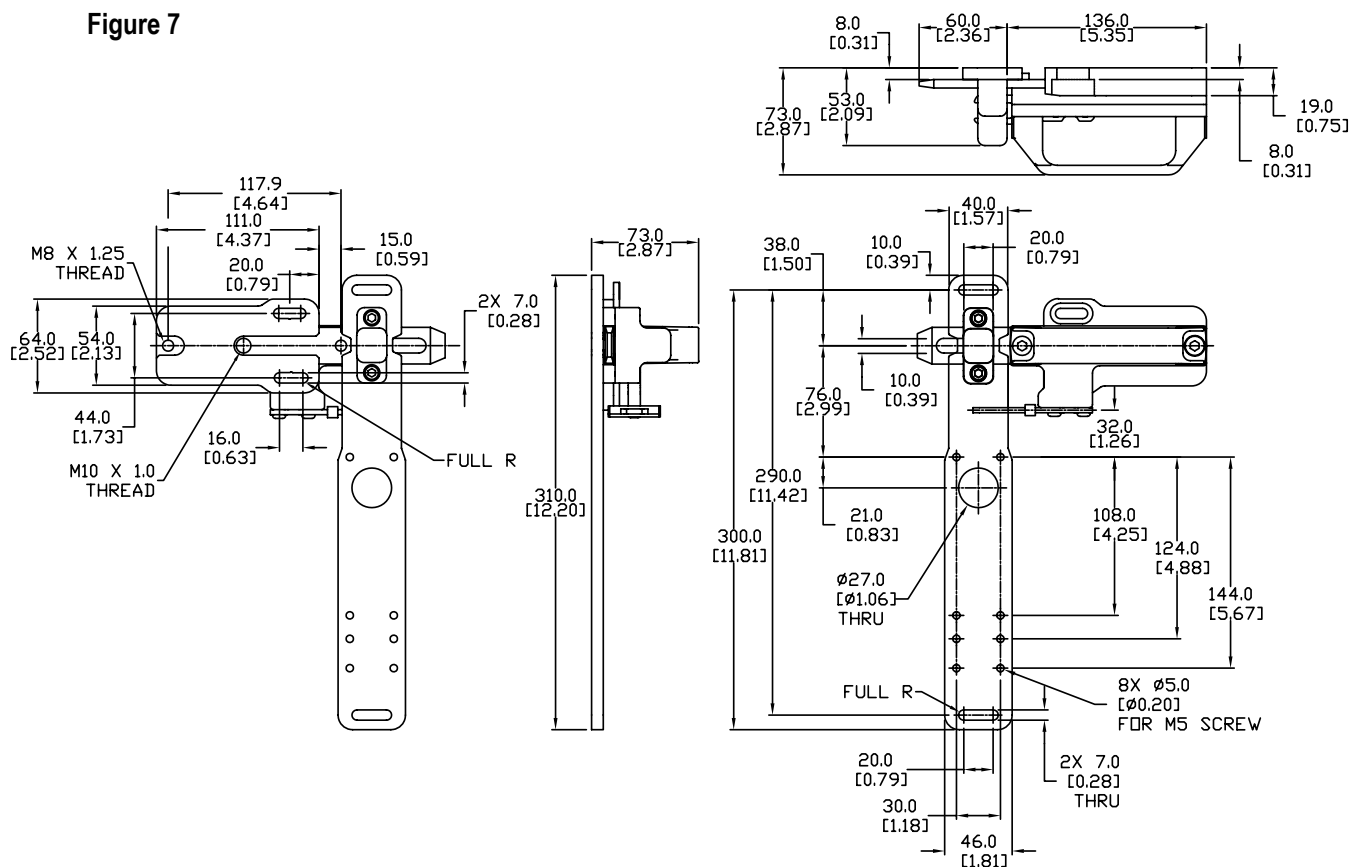


Figure 8

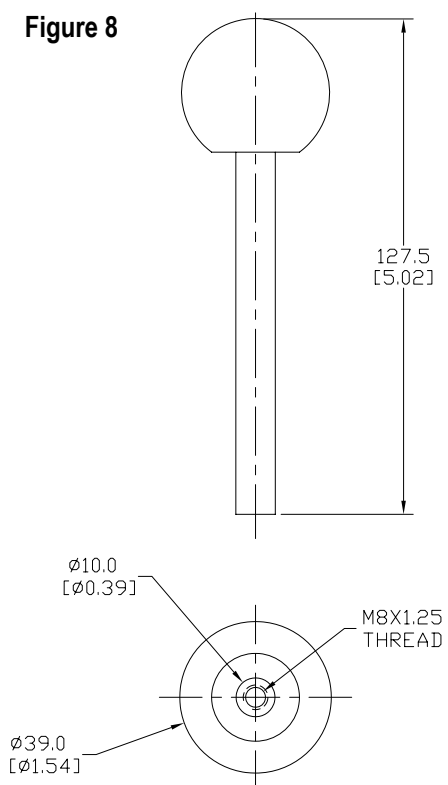
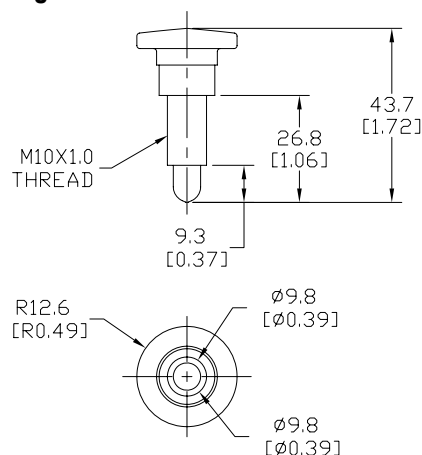


Figure 9



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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