

# 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**



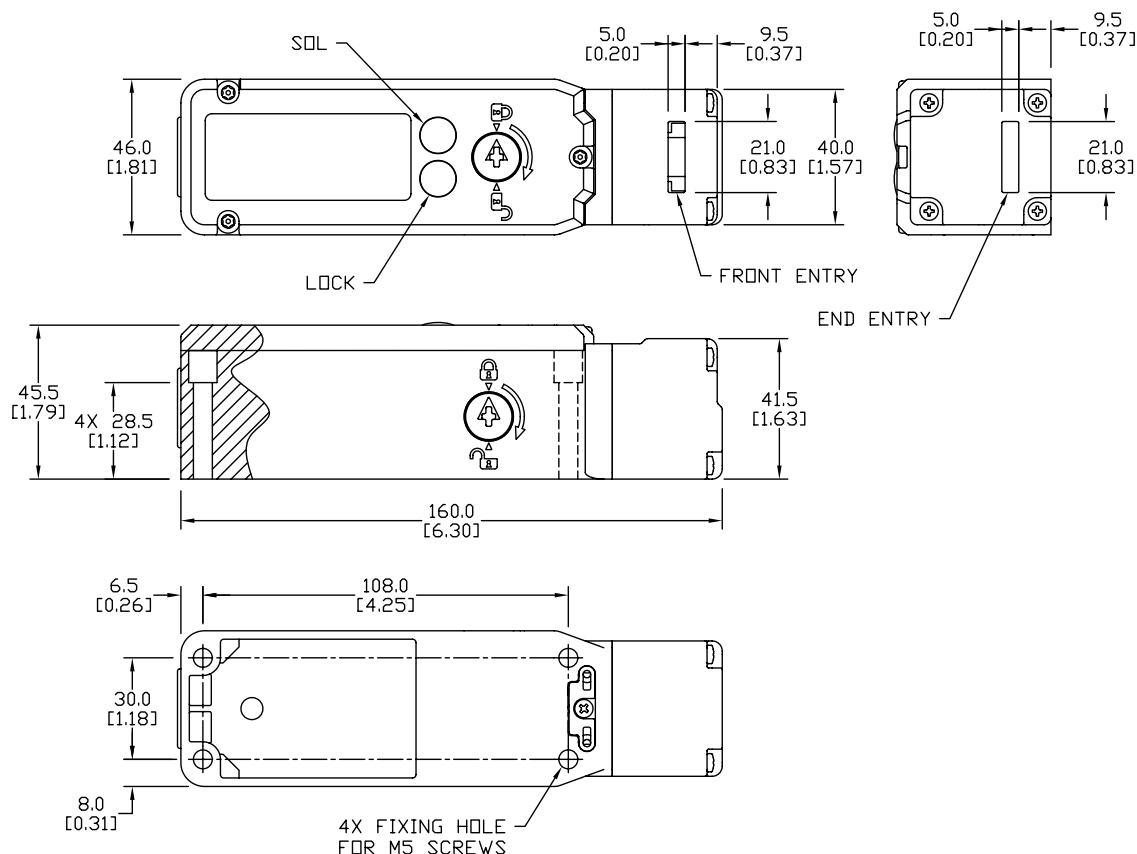
See electrical specifications later in this section.

| 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 |
| <a href="#"><u>KLP-201002</u></a>                             | \$233.00 | Polyester plastic   | 316 stainless steel | 1.4          | 10mm                                         | 1800N         | 24 VAC/DC                       | 1 Solenoid Status      | 2 NC safety contacts<br>(1) selectable output (1 NO auxiliary contact or LED for lock status)<br>1 NO auxiliary contact for actuator tongue (key) status | Figure 1   |
| <a href="#"><u>KLP-201005</u></a>                             | \$238.00 |                     |                     |              |                                              |               | 110VAC                          |                        |                                                                                                                                                          |            |
| <a href="#"><u>KLM-202002</u></a>                             | \$258.00 | Die-cast aluminum   | Die-cast aluminum   | 1.9          | 10mm                                         | 2000N         | 24 VAC/DC                       | 1 Optional Lock Status | 4 NC safety contacts<br>(1) selectable output (1 NO auxiliary contact or LED for lock status)<br>1 NO auxiliary contact for actuator tongue (key) status | Figure 2   |
| <a href="#"><u>KLM-202005</u></a>                             | \$263.00 |                     |                     |              |                                              |               | 110VAC                          |                        |                                                                                                                                                          |            |
| <a href="#"><u>KL3-SS-205002</u></a>                          | \$609.00 | 316 stainless steel | 316 stainless steel | 2.9          | 10mm                                         | 2000N         | 24 VAC/DC                       |                        | 1 NO auxiliary contact for actuator tongue (key) status                                                                                                  | Figure 3   |
| <a href="#"><u>KL3-SS-205005</u></a>                          | \$617.00 |                     |                     |              |                                              |               | 110VAC                          |                        |                                                                                                                                                          |            |

## Dimensions

mm [in]

Figure 1



# IDEM Solenoid Interlock Safety Switches

## Dimensions

mm [in]

Figure 2

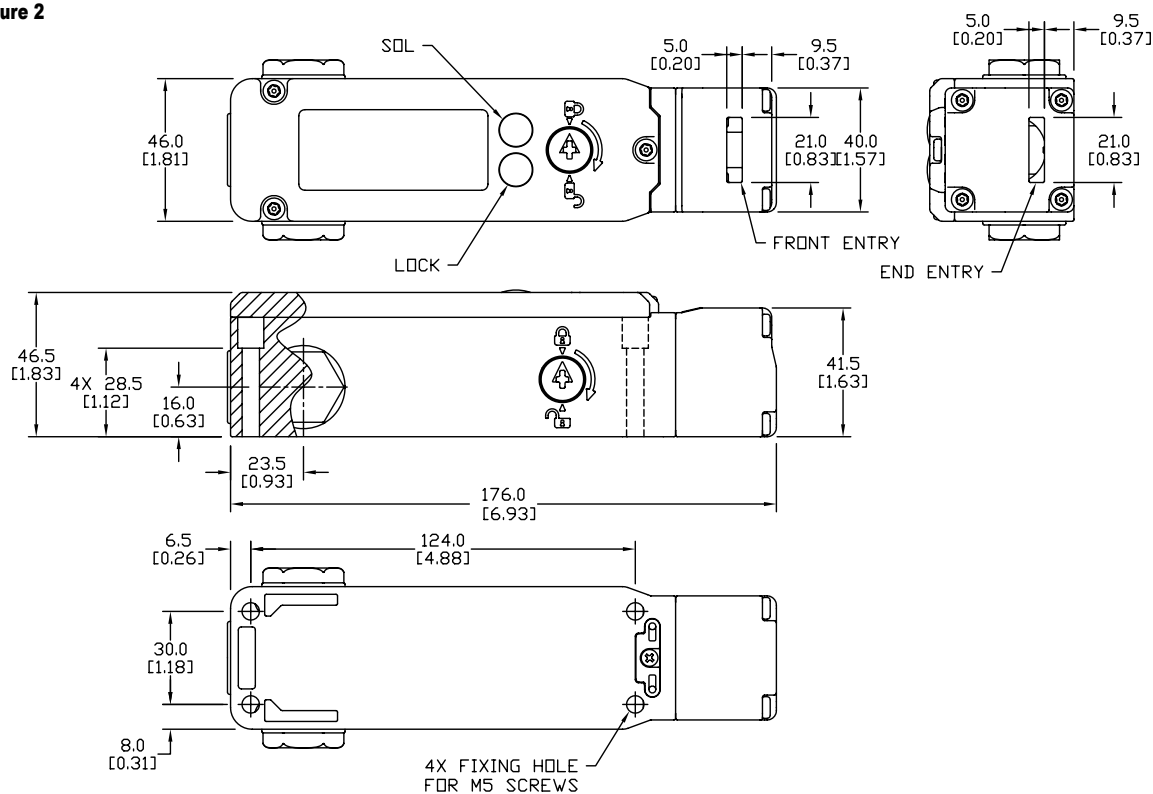
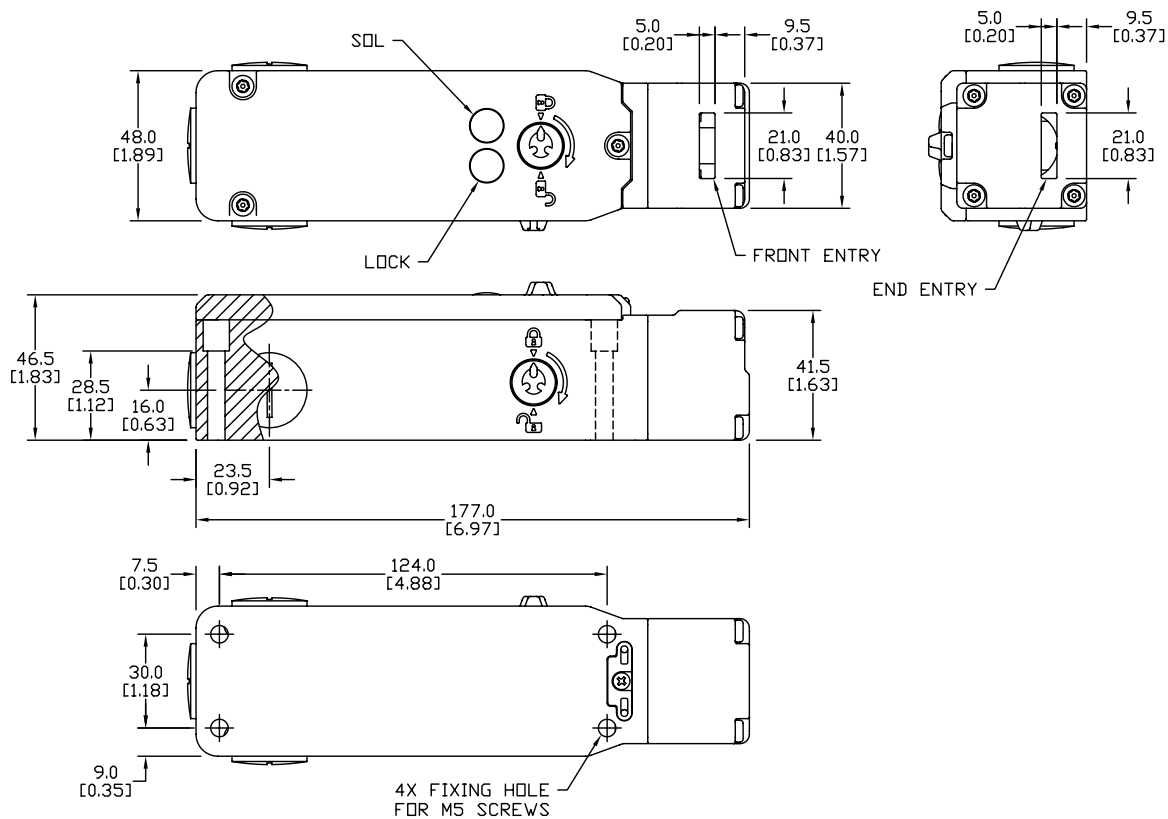


Figure 3



# 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 |
| <b><u>KL1-P-221002</u></b>                                  | \$227.00 | Polyester plastic   | 316 stainless steel | 1.4          | 10mm                                         | 1400N         | 24 VAC/DC        | 1 solenoid status                           | 2 NC safety contacts<br>2 NO auxiliary contacts                                 | Figure 1   |
| <b><u>KL1-P-221005</u></b>                                  | \$232.00 |                     |                     | 1.3          |                                              |               | 110VAC           |                                             |                                                                                 |            |
| <b><u>KL1-P-221302</u></b>                                  | \$227.00 | Polyester plastic   | 316 stainless steel | 1.4          | 10mm                                         | 1400N         | 24 VAC/DC        | 1 solenoid status<br>1 optional lock status | 2 NC safety contacts<br>1 NO auxiliary contact for actuator tongue (key) status | Figure 1   |
| <b><u>KL1-P-221305</u></b>                                  | \$232.00 |                     |                     | 1.3          |                                              |               | 110VAC           |                                             |                                                                                 |            |
| <b><u>KL1-SS-220002</u></b>                                 | \$446.00 | 316 stainless steel | 316 stainless steel | 2.5          | 10mm                                         | 1600N         | 24 VAC/DC        | 1 solenoid status                           | 2 NC safety contacts<br>2 NO auxiliary contacts                                 | Figure 2   |
| <b><u>KL1-SS-220005</u></b>                                 | \$451.00 |                     |                     |              |                                              |               | 110VAC           |                                             |                                                                                 |            |
| <b><u>KL1-SS-220302</u></b>                                 | \$446.00 | 316 stainless steel | 316 stainless steel | 2.5          | 10mm                                         | 1600N         | 24 VAC/DC        | 1 solenoid status<br>1 optional lock status | 2 NC safety contacts<br>1 NO auxiliary contact for actuator tongue (key) status | Figure 2   |

# IDEM Solenoid Interlock Safety Switches

## Dimensions

mm [in]

Figure 1

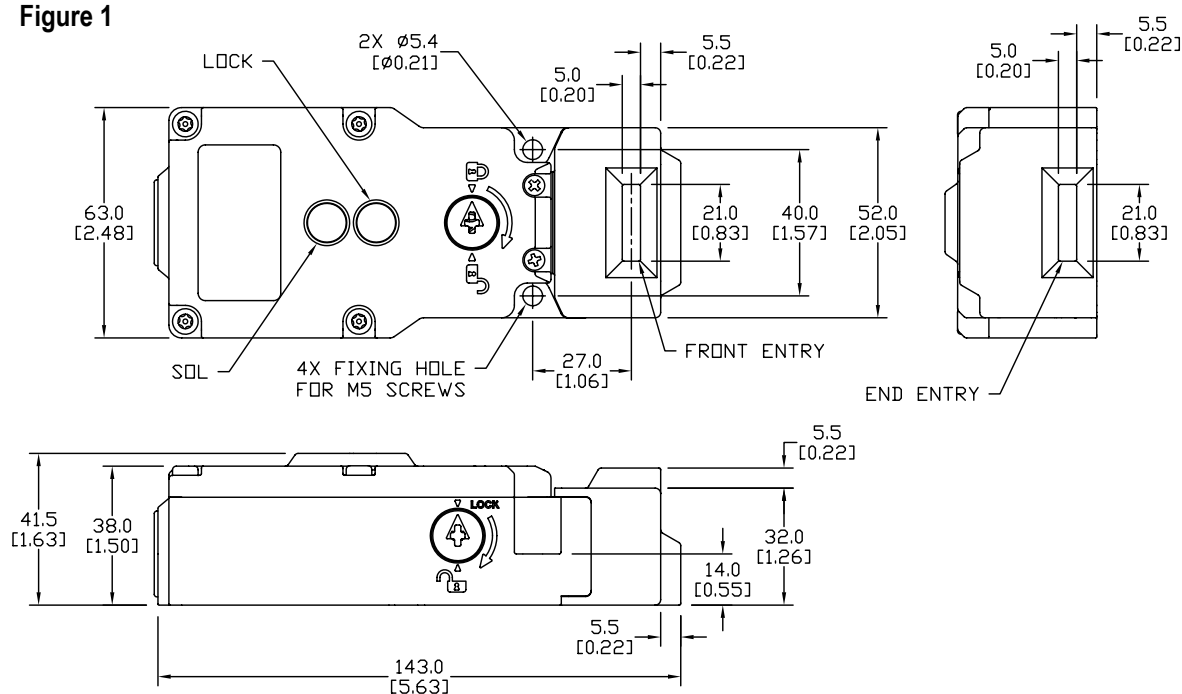
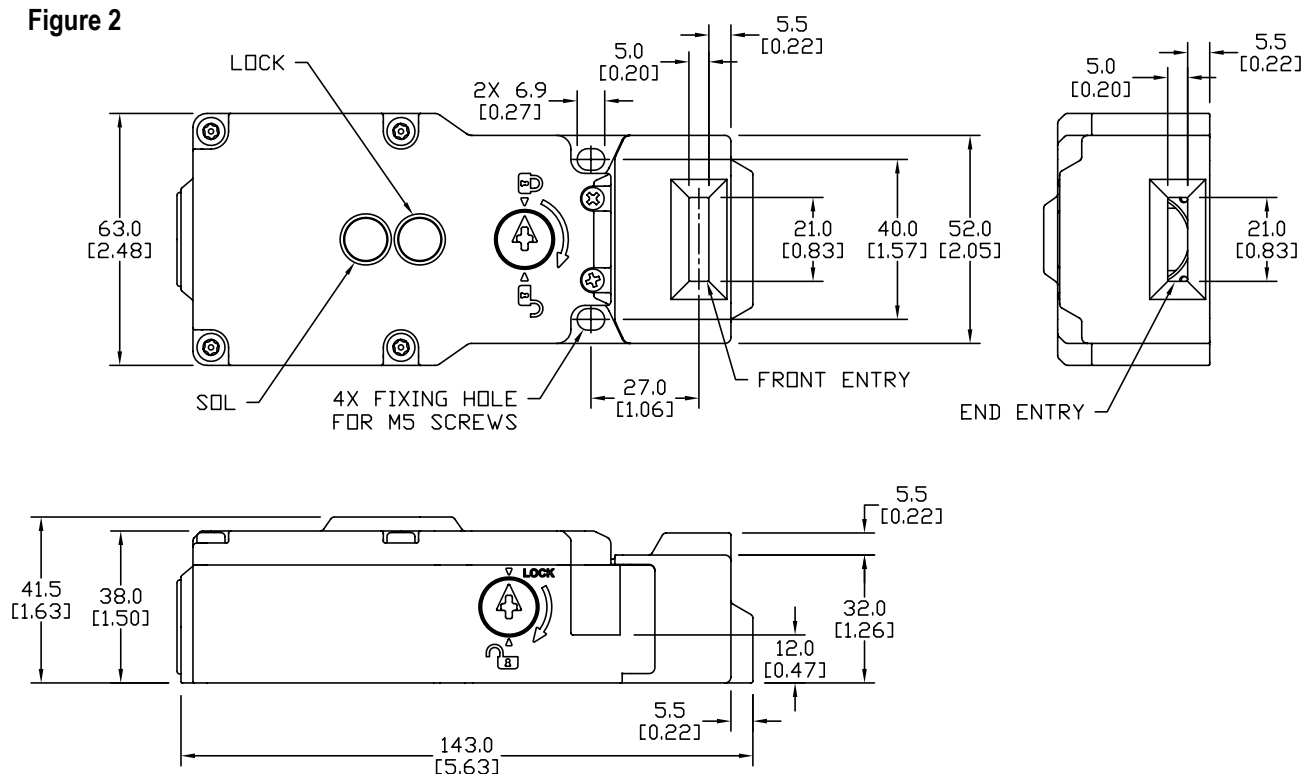


Figure 2



# 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 |
| <a href="#"><u>KLTM-450002</u></a>                         | \$253.00 | Die-cast aluminum   | 316 stainless steel | 2.7         | 10mm                                 | 2000N         | 24 VAC/DC        | 1 solenoid status<br>1 optional lock status | 4 NC safety contacts<br>1 NO auxiliary contact for actuator tongue (key) status | Figure 1   |
| <a href="#"><u>KLTM-450005</u></a>                         | \$258.00 |                     |                     | 2.6         |                                      |               | 110VAC           |                                             |                                                                                 | Figure 2   |
| <a href="#"><u>KLT-SS-451002</u></a>                       | \$506.00 | 316 stainless steel | 316 stainless steel | 4.7         |                                      |               | 24 VAC/DC        |                                             |                                                                                 |            |

# IDEM Solenoid Interlock Safety Switches

## Dimensions

mm [in]

Figure 1

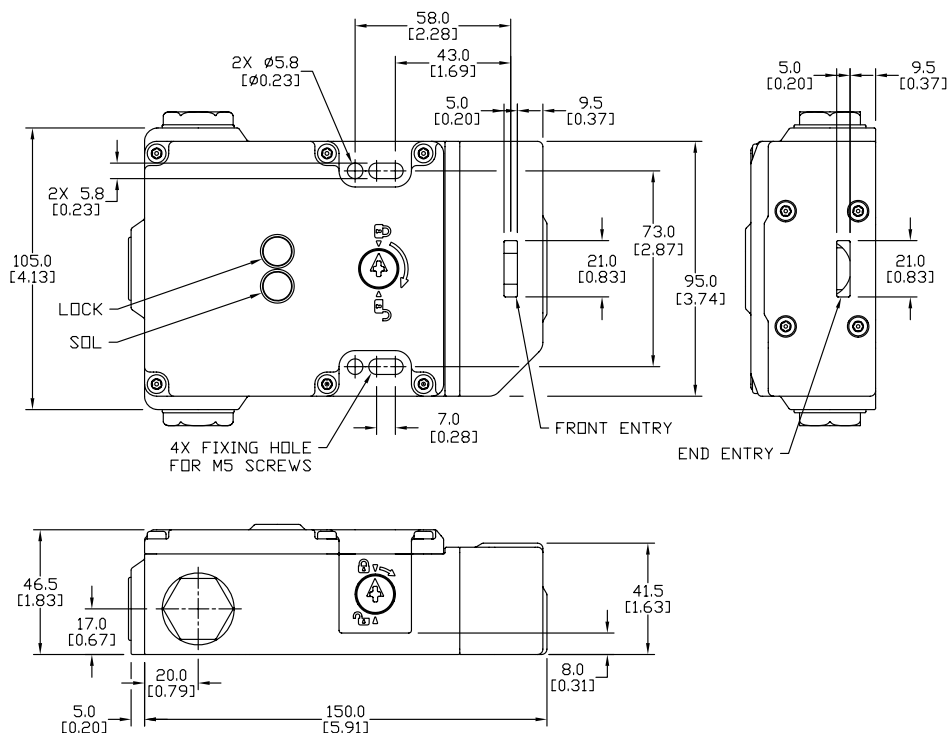
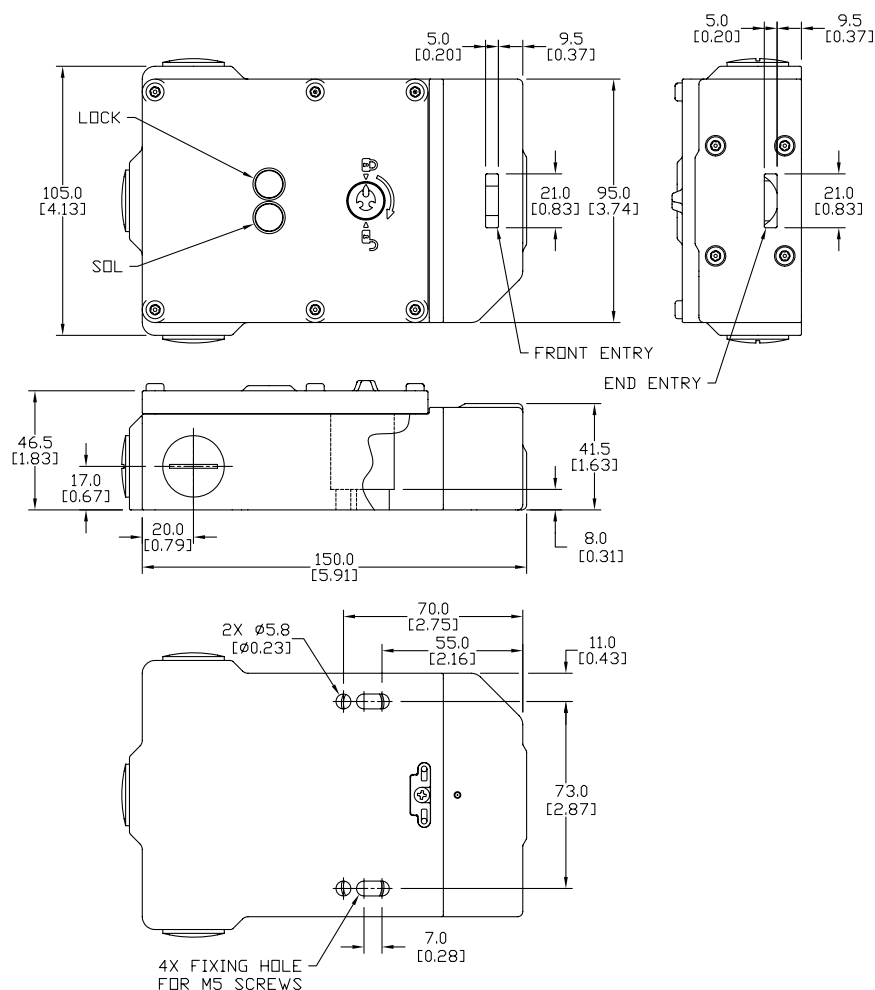


Figure 2

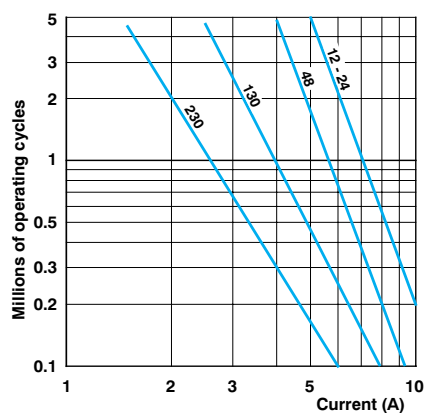


# IDEM Solenoid Interlock Safety Switches Specifications

| 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);<br>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<br>(1.11 lb-ft)                                                        | Stainless Steel; T20 Torx;<br>1Nm<br>(0.74 lb-ft) | Stainless Steel; T20 Torx; 1.5 Nm<br>(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)

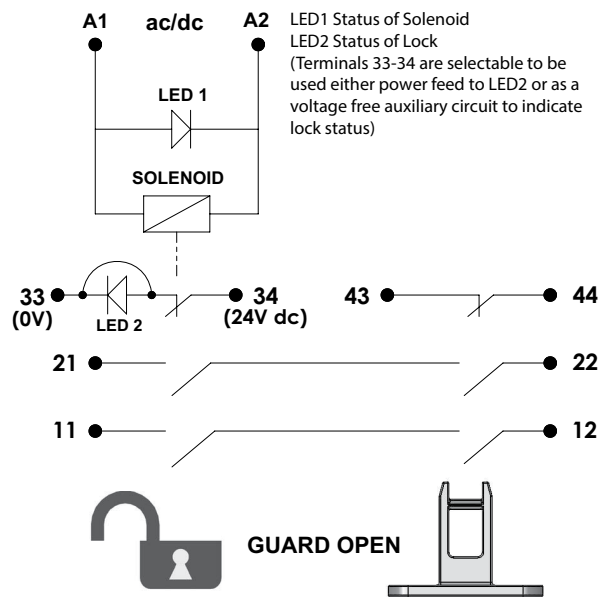
### AC-15 Slow Action



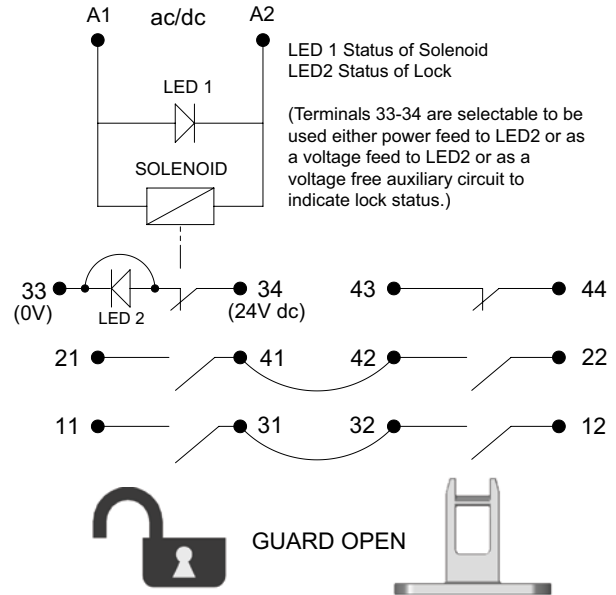
# IDEM Solenoid Interlock Travel Charts

## Contacts Configuration

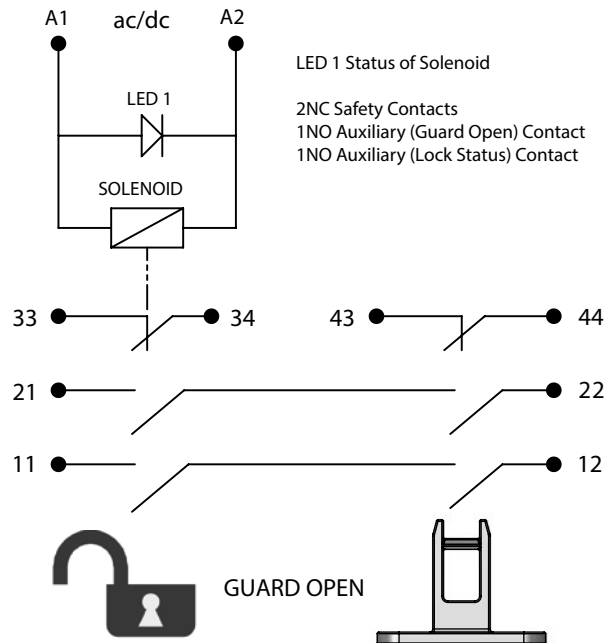
### KLP



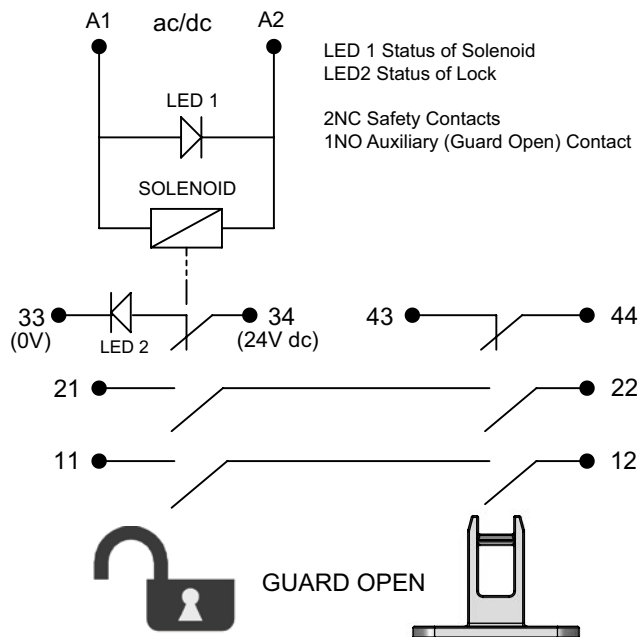
### KLM/KL3-SS/KLTM/KLT-SS



### 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 |              |                      |            |
| <b>140107</b> | \$11.50 | 40mm mounting hole spacing, 90 degree stainless steel key/mounting tab                                     | ✓                | ✓             | 0.07         | 175mm                | Figure 1   |
| <b>140108</b> | \$11.00 | 20mm mounting hole spacing, straight stainless steel key with plastic stop                                 | ✓                | ✓             | 0.07         | 175mm                | Figure 2   |
| <b>140110</b> | \$39.50 | 40mm mounting hole spacing, stainless steel key with black-painted aluminum flexible mounting tab          | ✓                | ✓             | 0.16         | 100mm                | Figure 3   |
| <b>140111</b> | \$81.00 | 40mm mounting hole spacing, stainless steel key with mirror polished stainless steel flexible mounting tab | ✓                | ✓             | 0.22         | 100mm                | Figure 3   |
| <b>140130</b> | \$55.00 | IDEM lockout actuator, stainless steel, for use with all IDEM tongue (key) switches                        | ✓                | ✓             | 0.10         | NA                   | Figure 4   |
| <b>140123</b> | \$22.50 | 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 |             |            |
| <b>GBL-1-210001</b> | \$147.00 | IDEM gate bolt, left hand version, for use with KLP and KLM series safety switches. Includes actuating tongue (key).  | ✓         |       | 4.12        | Figure 6   |
| <b>GBL-1-210002</b> | \$147.00 | IDEM gate bolt, right hand version, for use with KLP and KLM series safety switches. Includes actuating tongue (key). | ✓         |       | 4.12        | Figure 7   |
| <b>GB-210005</b>    | \$20.00  | IDEM rear escape handle, for use with GBA-1 and GBL-1 series gate bolts                                               |           | ✓     | 0.1         | Figure 8   |
| <b>GB-210006</b>    | \$20.00  | 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

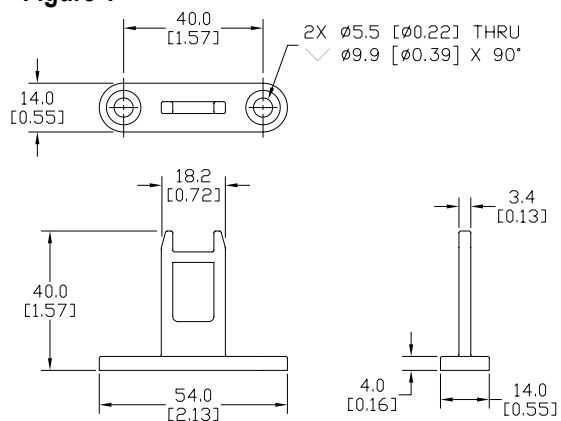


Figure 2

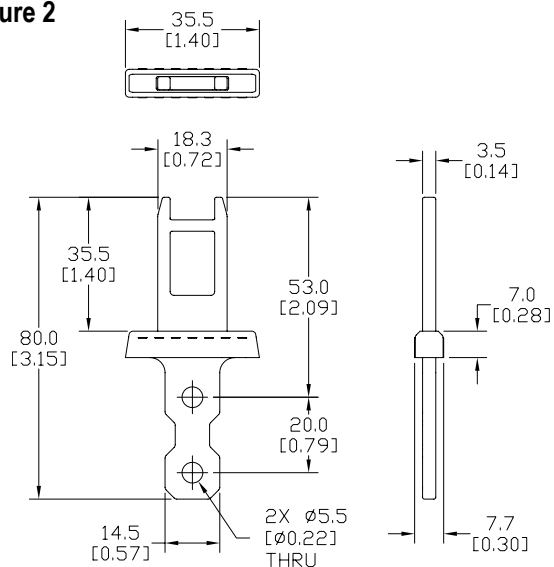
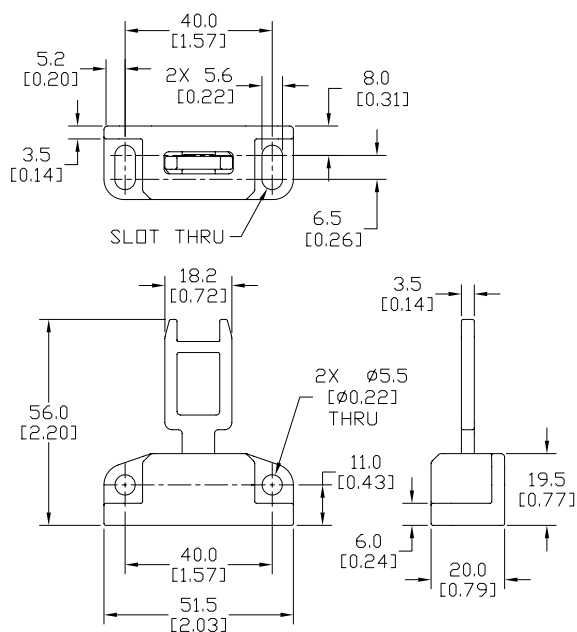
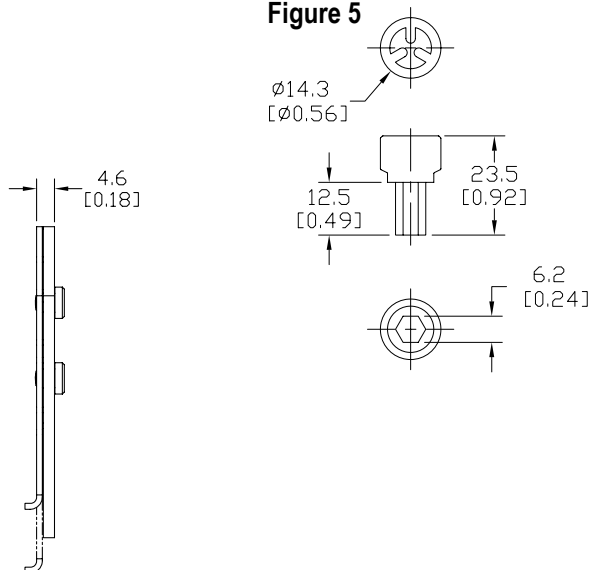
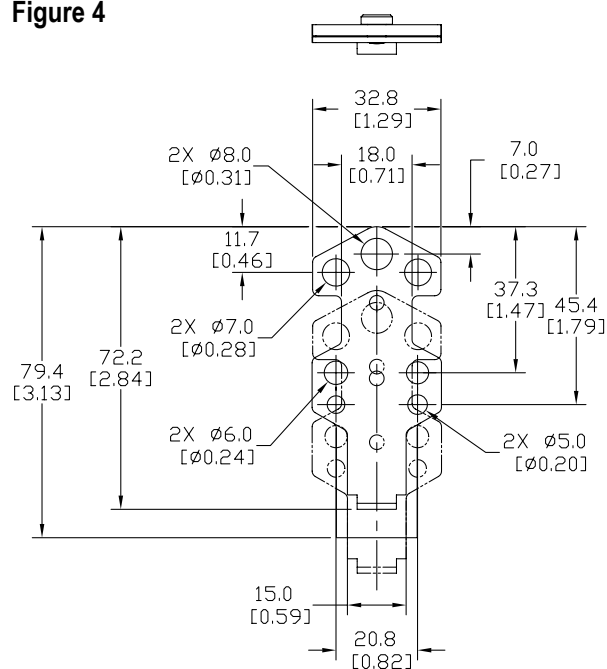
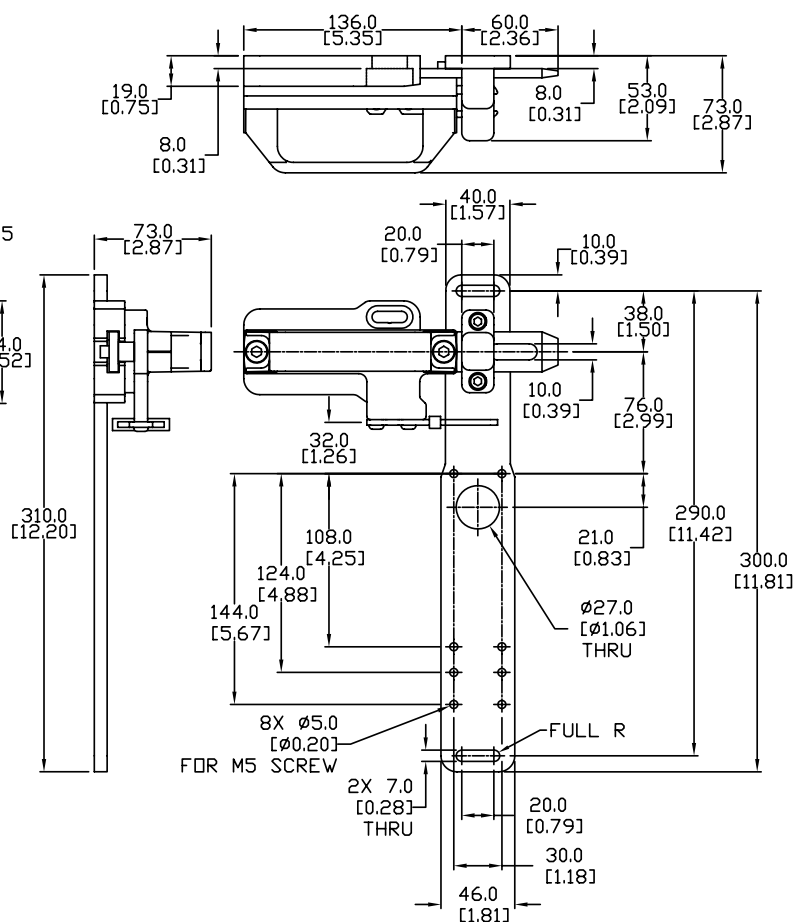


Figure 3



**mm [in]**[illegible]

# IDEM Solenoid Interlock Safety Accessories

## Dimensions

mm [in]

Figure 7

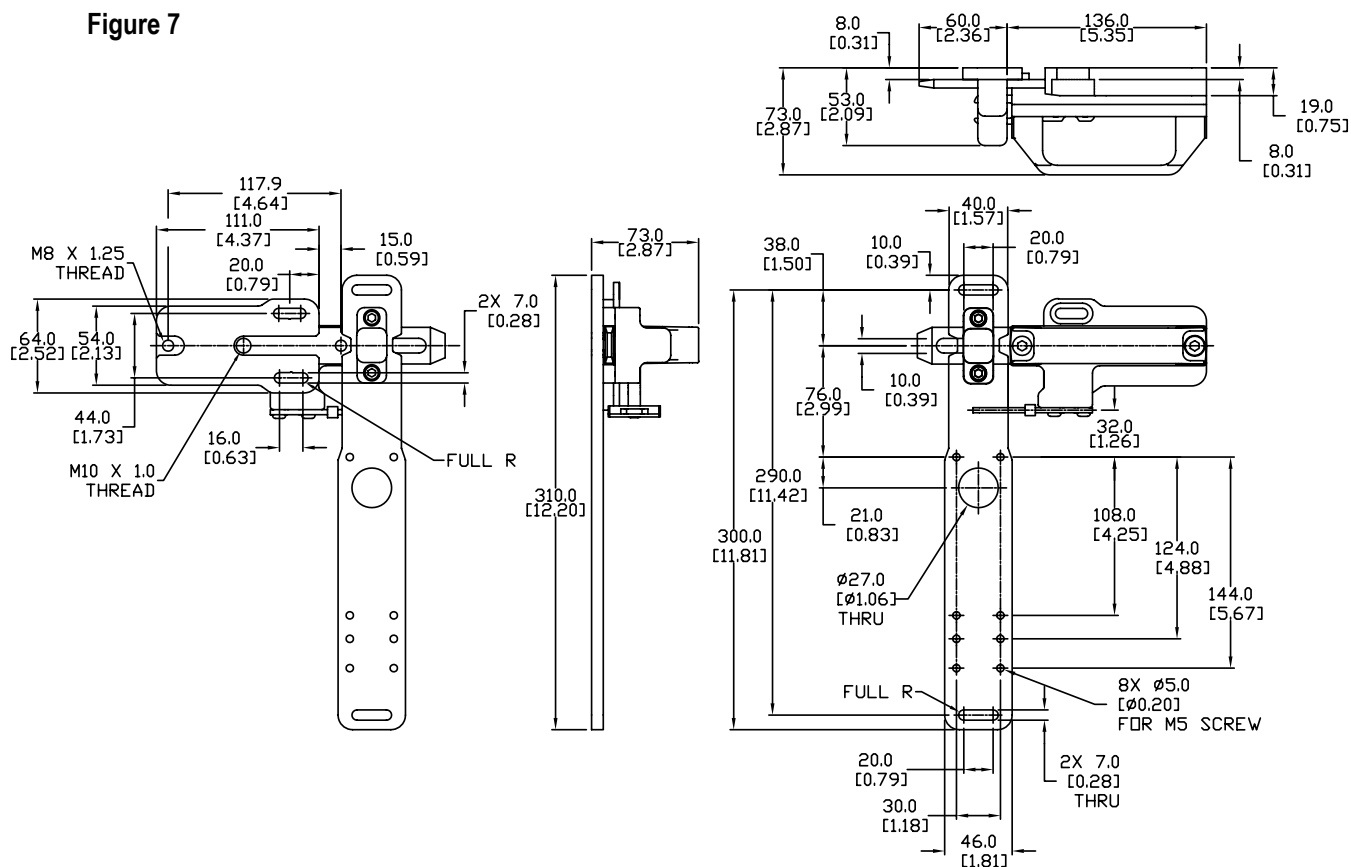


Figure 8

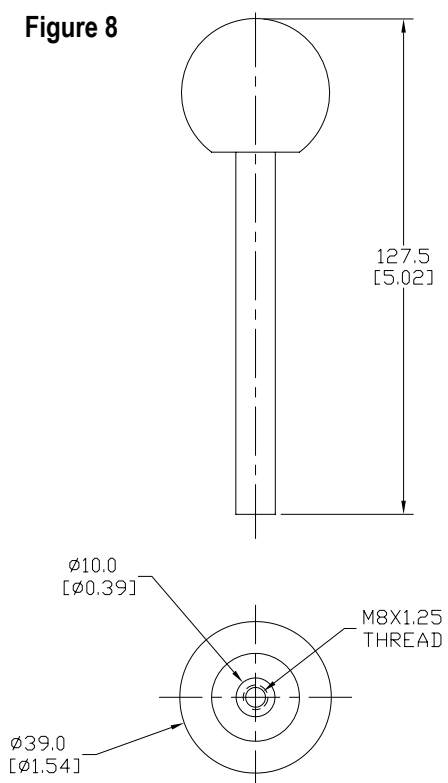
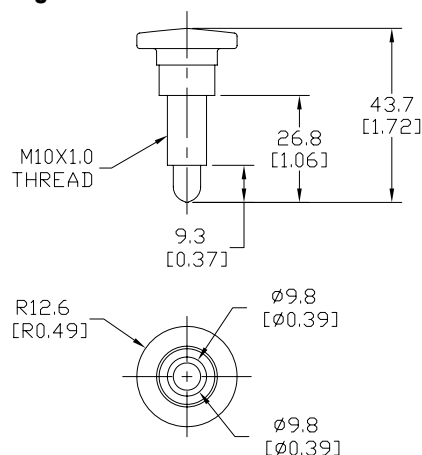


Figure 9



# 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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