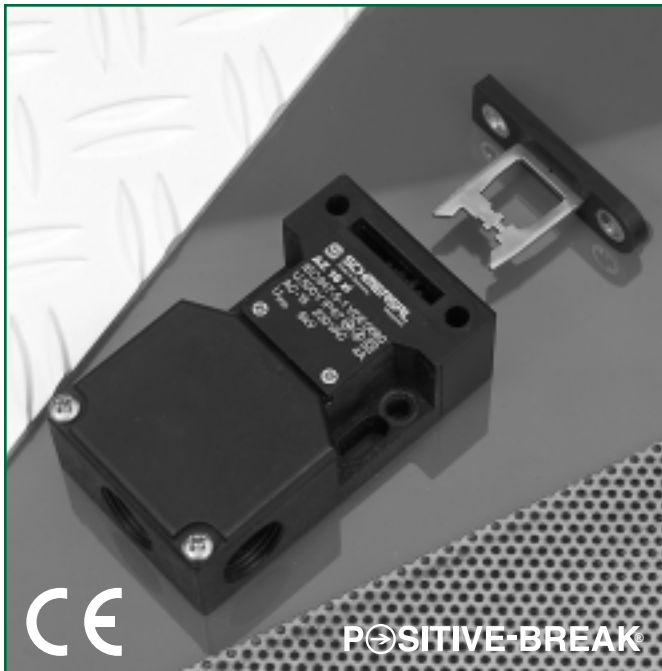


# SERIES AZ16zi

## Individually-Coded Movable Machine Guard Safety Interlock Switch



### Features & Benefits

- **Highly tamper-resistant actuating mechanism** ... difficult to defeat with simple tools, tape, bent wires, etc. Reduces liability exposure.
- **Individually-coded actuator key (15,000 codes)** ... provides extra security in high-risk applications.
- **Non-removable actuating head** ... heightens tamper-resistance.
- **Four optional key entry locations** ... provide installation flexibility.
- **“Positive-Break” NC contacts** ... assure circuit interruption upon actuator key removal.
- **Watertight design** ... meets IP67 washdown requirements.
- **High-strength, stainless-steel actuator key** ... tolerates mechanical abuse without damage.
- **Rugged, corrosion-resistant housing** ... tolerates the most hostile environments.
- **Tamper-resistant key mounting screws** ... deter bypassing.
- **Wide selection of accessories** ... to meet diverse application requirements.
- **Padlockable key** ... for added security during equipment maintenance.
- **Meets rigid safety agency standards** ... BG, UL and CSA.

### Description

The Series AZ16zi are designed for use with movable machine guards which must be closed for operator safety. Their tamper-resistant design, and positive-opening NC contacts, provide a significantly higher level of safety than conventional spring-driven switches whose contacts can weld/stick shut. Their IP67 rating makes them ideal for interlocking safety guards in hostile environments.

### Operation

The AZ16zi is a two-piece, electromechanical safety interlock switch. It consists of a rugged switch mechanism and an individually-coded, geometrically-unique actuating key. The key must be directly hard-mounted to the movable guard. Upon opening of the guard, the normally-closed (NC) contact(s) are forced to open through a direct (non-resilient) mechanical linkage with the actuating key. The positive-break NC contacts assure circuit interruption (and machine stoppage) upon removal of the actuator key. (The NO contacts close upon key removal.)

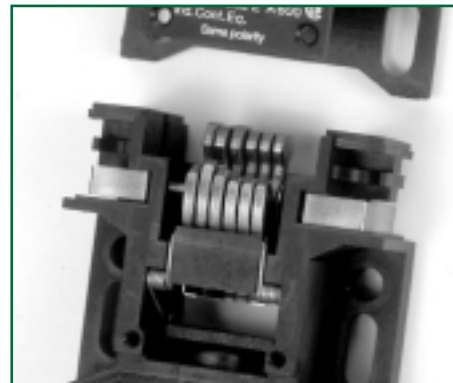
When the guard is closed, the actuating key forces the NC contacts to re-close, and any NO contacts to re-open. The tamper-resistant design prevents bypassing with simple tools, bent wires or other readily available means.

### Typical Applications



The AZ16zi is intended for use as a safety interlock on movable machine guards which, when open, expose the operator/maintenance personnel to machine hazards. Typical applications are the interlocking of protective gratings, hinged covers, access panels and other movable guards.

AZi  
**15000**  
CODES



Patented geometrically-unique tumbler configuration

# AZ16zi AVAILABLE MODELS AND ACCESSORIES

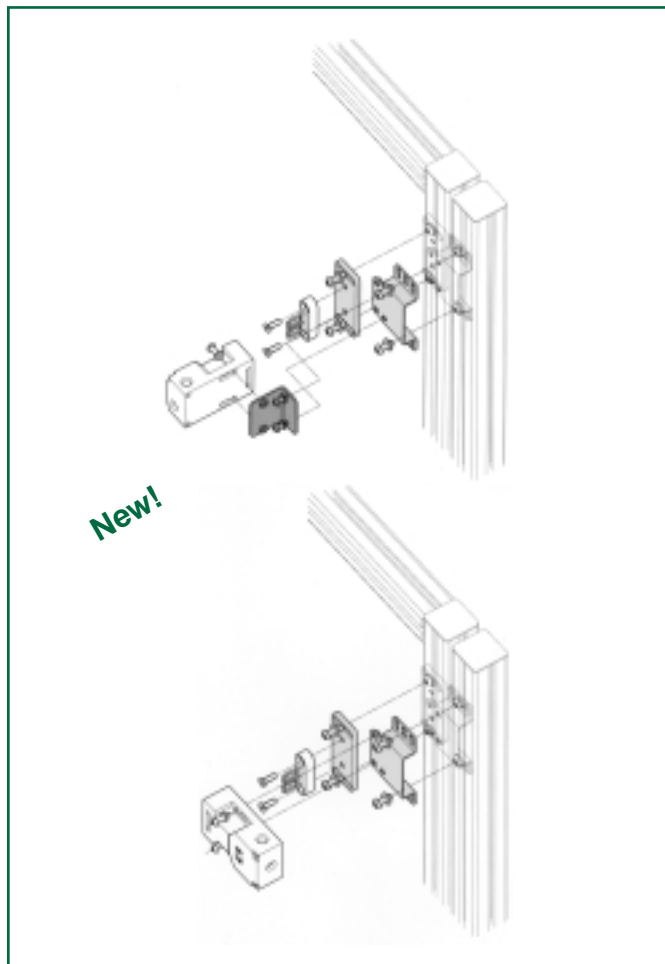
## AVAILABLE MODELS (Includes Individually-Coded Actuator Key and 1/2" NPT Plastic Adapter)

Part Number	Description	Contacts (with actuator key inserted)
AZ16-12zi-B1	Standard unit	1 NO & 2 NC
AZ16-03zi-B1		3 NC
AZ16-12zi-B1-1747	Standard unit with built-in key actuator magnet latch	1 NO & 2 NC
AZ16-03zi-B1-1747		3 NC
AZ16-12zi-B1-2024	Standard unit with built-in slot rubber seals on key actuator	1 NO & 2 NC
AZ16-03zi-B1-2024		3 NC
AZ16-12zi-B1-2053	Standard unit with built-in ball-latched key actuator	1 NO & 2 NC
AZ16-03zi-B1-2053		3 NC

## AVAILABLE ACCESSORIES

Part Number	Description
M20-CG	Cord grip (cable gland)
M20-1/2"P	Spare Plastic 1/2" NPT adapter (One supplied with each unit)
M20-1/2"M	Metal 1/2" NPT adapter (optional)
AZ15/16-CAP (3 per kit)	Key entry closure caps (for unused entry slots)
#6-3/8 SPH (package of 6)	#6-3/8 Spanner Pan Head Tamper-Resistant Sheet Metal Screws (For use on AZ16zi housing terminal cover)
#10-32 x 1/2" OWOH (package of 6)	#10-32 One-Way Oval Head Tamper-Resistant Machine Screws (For use in mounting actuator key)
AZ-SZ	AZ16zi Lockout Device (accepts up to 6 padlocks)
PL-M20-24V	24VAC/DC LED Pilot Light Kit
PL-M20-120V	110VAC/DC Pilot Light Kit
MS AZ 15/16	Adjustable mounting kit (Eases installation and facilitates adjustments due to guard misalignment)
Suffix "-2177"	Funnel entry adapter (Must be ordered with base switch for factory assembly...see page 30)

## MS AZ 15/16 ADJUSTABLE MOUNTING KIT



## TYPICAL INDIVIDUALLY-CODED KEYS

### EXAMPLE OF INDIVIDUALLY-CODED KEYS 15,000 codes provide extra security



# AZ16zi TECHNICAL DATA

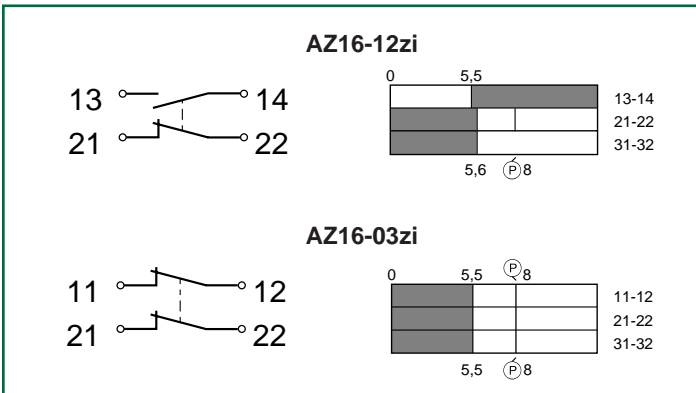
## MECHANICAL SPECIFICATIONS

<b>Housing</b>	Glass-fibre reinforced, self-extinguishing plastic
<b>Actuator Key</b>	Stainless steel
<b>Degree of Protection</b>	IP67
<b>Travel for Positive-Break</b>	0.315 inches (8 mm)
<b>Key Ejection Force</b>	3 N (0.7 pounds)
<b>Insertion Force</b>	Approx. 15N (3.3 pounds)
<b>Operating Temperature</b>	-22°F to +175°F
<b>Mechanical Life</b>	1 million operations
<b>Conformity to Standards</b>	UL & CSA, BG A600, P300
<b>Key Withdrawal Speed</b>	2 meters/second (maximum)
<b>Minimum Closing Radius</b>	9.8" (250mm)

## ELECTRICAL SPECIFICATIONS

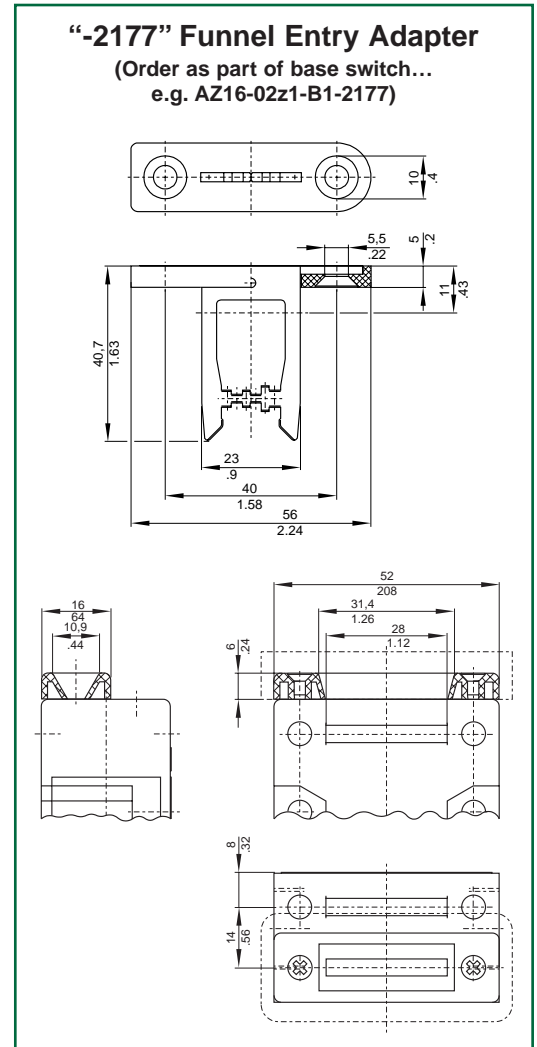
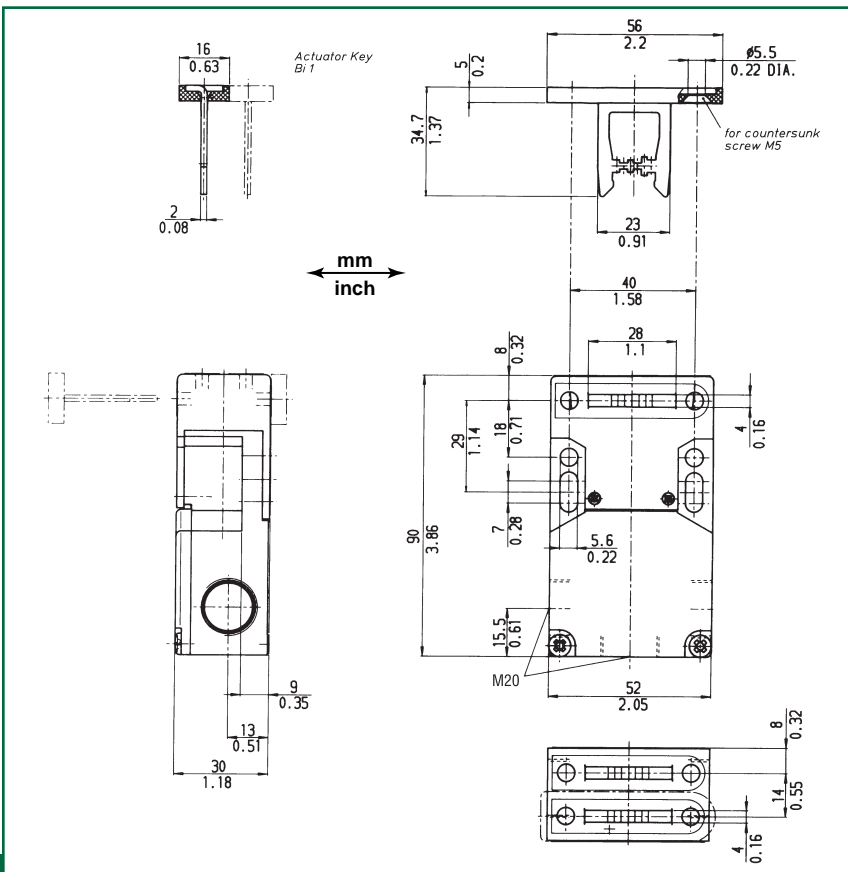
<b>Contacts</b>	Fine silver
<b>Contact Configuration</b>	Double-pole, double-break with electrically-separated contact bridges
<b>Contact Gap</b>	2 × 2 mm
<b>Switching Action</b>	Slow-action, positive-break NC contacts
<b>Contact Rating</b>	A600
<b>Rated Insulation Voltage</b>	500VAC
<b>Thermal Current Rating</b>	10A (300VAC)
<b>Current Rating</b>	6A @ 120VAC 4A @ 230VAC 2.5V/230VAC (with M12x1 quick-connect)
<b>Rated Impulse Withstand Voltage</b>	6kV
<b>Short Circuit Protection</b>	Fuse 6A (slow-blow)
<b>Type Terminals*</b>	Screw terminals with self-lifting clamps for up to 2.5 mm <sup>2</sup> (AWG13) wire

## SWITCHING DIAGRAMS & CONTACT SCHEMATICS



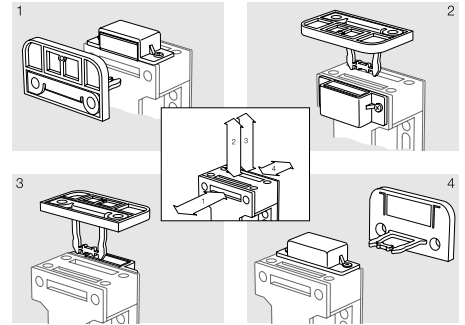
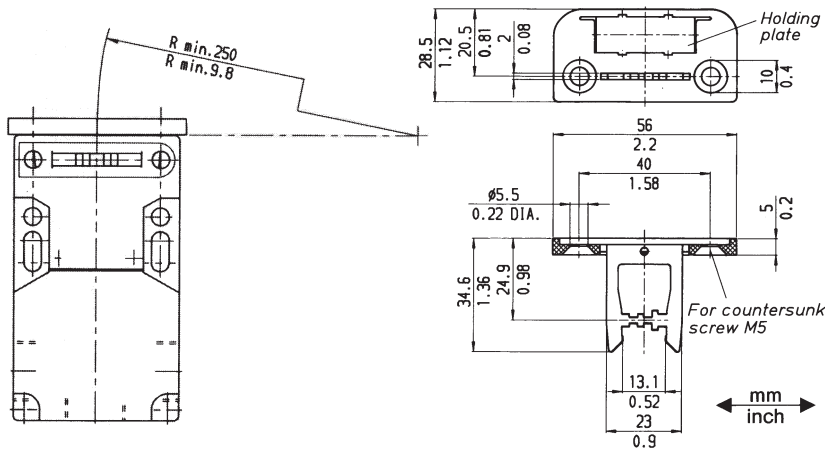
\*Optional plug-in M12x1 quick-connect available. Please consult factory.

## DIMENSIONS

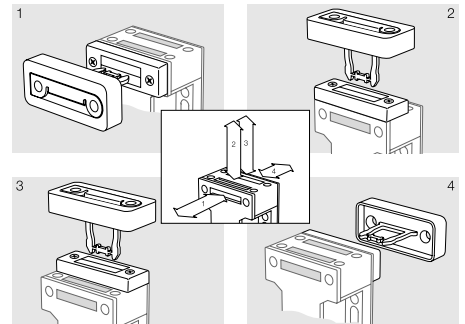
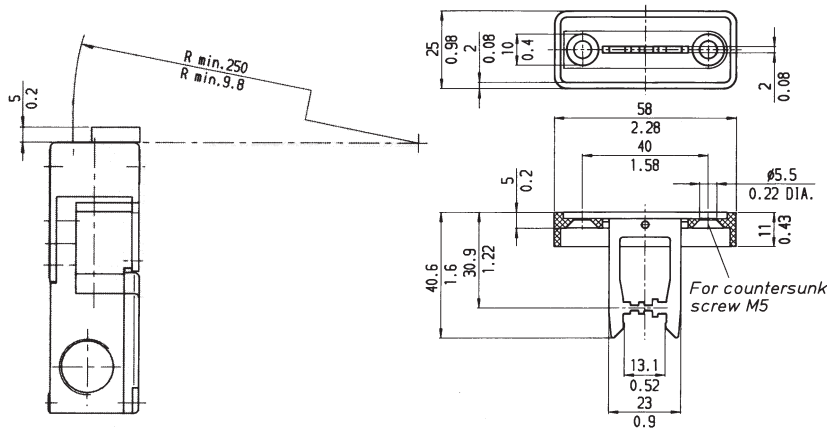


# AZ16zi INDIVIDUALLY-CODED ACTUATOR KEY SPECIFICATIONS

## -1747 (for holding magnet)

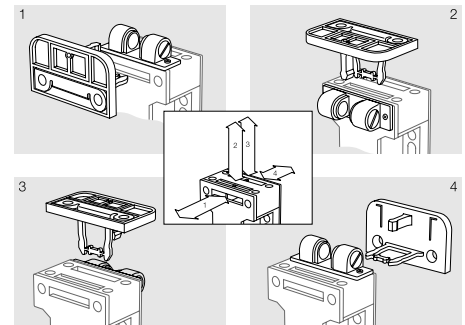
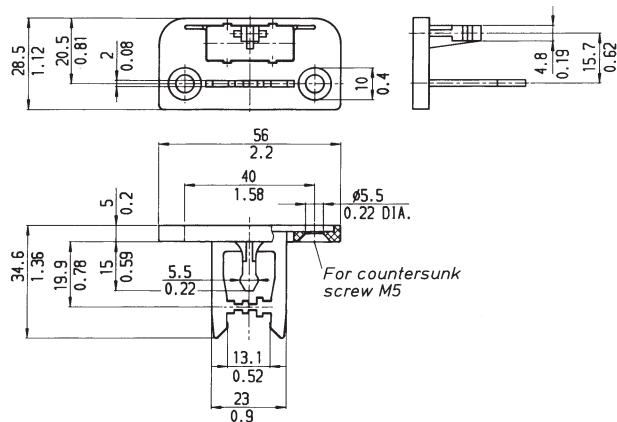


## -2024 (for slot rubber seals)



Applications: harsh environments  
(coarse dirt, chips, flour...)

## -2053 (for ball catch)



For holding light to medium-weight guards closed