SERIES ST14

Sub-Compact, Tamper-Resistant Movable Machine Guard Safety Interlock Switch

Features & Benefits

- **Compact design** … only ¾" × 1¼" × 2". Ideal where space is limited.
- **"Positive-break" NC contacts** … assure circuit interruption upon actuator key removal.
- **Tamper-resistant design** … difficult to defeat with simple tools, tape, bent wires, etc. Reduces liability exposure.
- **Watertight design** … meets NEMA 4 (IP67) washdown and immersion requirements.
- **High-strength, stainless-steel actuator key** … tolerant to mechanical abuse without damage.
- **Rugged, corrosion-resistant housing** … tolerates the most hostile environments.
- **Top and side key-entry locations** … provide installation flexibility.
- **Optional key designs** … to meet diverse application requirements.
- **Meets rigid safety agency standards** … IEC, BG, VDE, UL and CSA.
- **Optional "side-entry" cable** … please consult factory.

Description

The ST14 Series is designed for use with movable machine guards which must be closed for operator safety. Their two-piece, tamper-resistant design, and positive-opening NC contacts, provide a significantly higher level of safety than conventional, spring-driven switches whose contacts can weld or stick shut. Their NEMA 4 (IP67) rating make them ideal for interlocking safety guards in hostile environments. Their compact design allows use in applications where space is severely limited.

Optional right-angle keys, close-radius keys and mounting brackets provide application versatility.

Operation

The ST14 is a two-piece, electromechanical safety interlock switch. It consists of a rugged, sealed switch mechanism and a geometrically-unique actuating key. The actuating key is typically mounted to the movable machine guard or access gate. Upon opening of the guard the NC contact(s) are forced to open by a direct (non-resilient) mechanical linkage with the actuating key. These positive-break contacts assure circuit interruption (and machine stoppage) upon removal of the actuator key. (The NO contact closes upon key removal.)

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

Typical Applications

The ST14 is intended for use as a safety interlock switch on movable machine guards which, when open, expose the operator/maintenance personnel to machine hazards. Their compact, sealed (NEMA 4) design makes them ideal where space is severely limited and/or where equipment is washed-down or subject to other hostile environments (i.e. business machines, medical equipment, food processing machinery, et al). Typical applications are the interlocking of protective gratings, access doors/guards, hinged covers, access panels and other movable guards.

AVAILABLE STANDARD MODELS

(Actuator key must be ordered separately)
Please see below.

Part Number	Contacts (with key inserted)	Description
ST14-10/1SK	1 NO & 1 NC	ST14 interlock switch (Sealed switch. Contact mechanism embedded in resin.)
ST14-20K	2 NC	ST14 interlock switch (Sealed switch. Contact mechanism embedded in resin.)

Note: All actuator keys feature integral vibration-tolerant mounting washers.

ACTUATOR KEYS & ACCESSORIES

Part Number	Description
ST14-B1	Standard B1 actuator key
ST14-B3	Close-radius actuator key (for mounting key close to door hinge)
ST14-B5	Right-angle actuator key
ST14-Bracket	Optional switch or key mounting bracket

Note: All actuator keys feature integral vibration-tolerant mounting washers.

ST14 TECHNICAL DATA

MECHANICAL SPECIFICATIONS

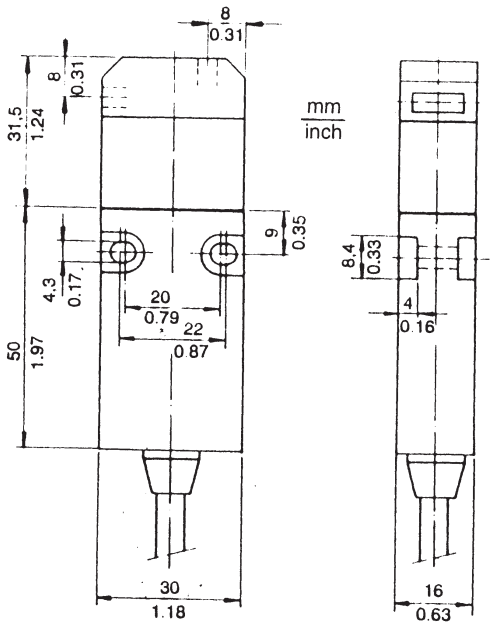
Housing	Glass-fibre reinforced, self-extinguishing thermoplastic
Actuator Key	Stainless steel (defeat-resistant design)
Degree of Protection	IP67 Actuation Head: IP 20
Operating Temperature	–4°F to +175°F
Mechanical Life	> 10^6 operations
Conformity to Standards	IEC 947-5-1 EN 60947-5-1 DIN VDE 0660-200 BG-GS-ET-15 UL CSA
Minimum Closing Radius	5.9" (with ST14-B1 and ST14-B5 actuator key) 1.97" (with ST14-B3 actuator key)

ELECTRICAL SPECIFICATIONS

Contacts	Fine silver
Contact Configuration	Double-pole, double-break with electrically separated contact bridges
Contact Rating	6A (250VAC) 0.25A (220VDC)
Switching Action	Slow-action, positive-break NC contacts
Short Circuit Protection	Fuse 6A (time-delay)
Electrical Connection	Prewired with sealed PVC UL-style 2464 4x20 AWG cable one meter long*

*Other cable lengths available. Please consult factory.

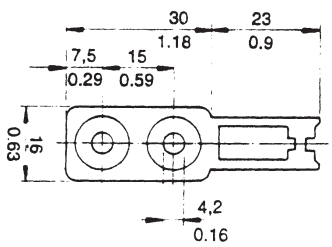
DIMENSIONS

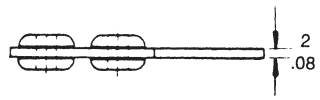


Note: Side-entry cable available (Please consult factory)

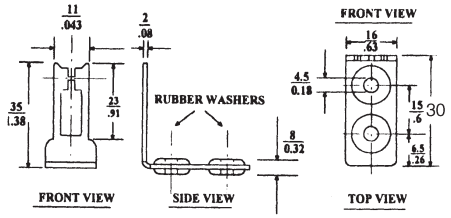
ST 14-B1 (Standard key)

Minimum key entry closing radius 150mm.

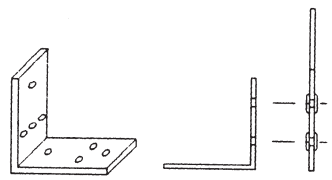




Right Angle Key ST 14-B5

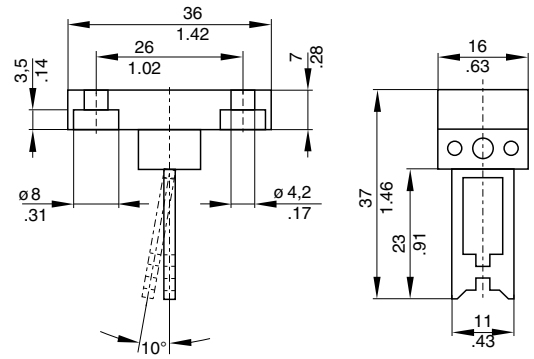


ST 14-Bracket Switch or Key Mounting Bracket



Angle view Side view

ST 14-B3 Close Radius Key



For close radius keys for mounting key close to (within 50 mm) door hinge, order ST 14-B3.

SWITCHING SYMBOLS & CONTACT SCHEMATICS

(Colors identify factory prewiring)