

# Semiconductor Industry Expertise

## Leading the Way in SEMI S2 Safety Compliance



**The SQUARE D SEMI S2 compliant and certified EMO button, offers choice of standard or narrow flange guard per GS3 Document Number 200234F**

Electrical and safety standards are often open to individual interpretation, creating the potential for confusion. Square D can help reduce the guesswork. As a global manufacturer of electrical equipment for the semiconductor industry and the world's largest supplier of 22mm push buttons and operators, we have a long history of providing products that meet the intent of guidelines such as SEMI S2.

### SEMI S2, Guarding and EMO Buttons

Nearly every type of machine in the semiconductor manufacturing process requires a method for emergency shutdown. Section 12 of the SEMI S2-0200 guidelines states: "The equipment should have an 'emergency off' (EMO) circuit... when activated, should place the equipment into a safe shutdown condition." Section 12 further states, "All emergency off buttons should be clearly labeled as 'EMO' 'Emergency Off'...located to minimize accidental activation."

### The Square D Solution

We've worked with some of the industry's largest manufacturers as well as one of the industry's most respected SEMI S2 certification agencies to provide an EMO solution that takes all of the guesswork out of meeting the guidelines. Our new EMO button and guards have been certified SEMI S2-compliant when installed in accordance with the installation procedures that accompany each product. The EMO design assures protection from inadvertent activation while providing easy accessibility for palm operation. And the high performance materials used to manufacture our EMOs provide negligible particle generation when in use, a must for clean room environments. For semiconductor application solutions, rely on someone who knows the business – Square D.



**SQUARE D**  
Schneider Electric

## EMO Switch

**Part Number:** ZB4BS5430 Telemecanique

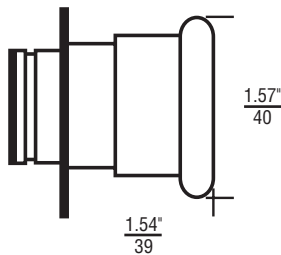
**Description:** 22mm mounting turn to release mushroom operator. 40 mm head diameter. For use with ZB4BZ contact blocks (sold separately)

**Material:** Operator: Polyamide 6 +20% glass filled  
Bezel: Zamak (die-cast zinc), bright chrome plated

**Engraving:** EMO at center of button face, .36" condensed block letters, white filled (.040" line width)

**Approvals:** UL, CSA, CE Marked

**Compliance:** EN418, EN60947-5-1 and IEC 947-5-1, SEMI S2-0200\* (see below)

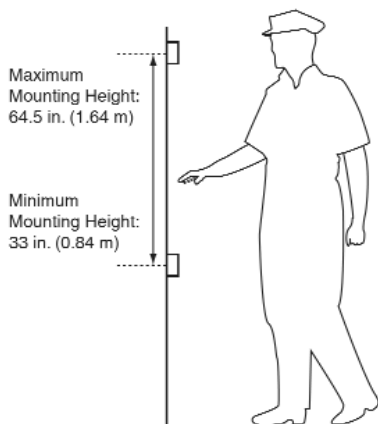


### Side View

**Panel Knockout**  
7/8" 22.3mm (+0.4-.0)

**Panel Thickness**  
w/Guard 0.1" (2.5 mm)

\* Use of the ZBBS5430 switch together ZB4BZ1905 Guard in a mounting height 33" to 64.5" will result in a SEMI S2 compliant installation as certified by Global Semiconductor Safety Services (GS<sup>3</sup>) Document Number 200234F



## EMO Button Features/Benefits

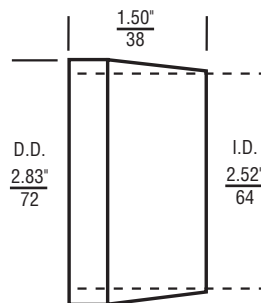
- Twist-to-release EMO button helps ensure intentional reactivation of the EMO circuit.
- Letter height and button diameter comply with SEMI S2 guidelines.
- Anti-rotation head ensures EMO lettering is always readable.
- Knurled button edge provides optimal anti-slip surface for clean room protective hardware.
- A variety of contact block configurations is available including ring tongue compatible contact blocks.
- All normally closed contact blocks are direct acting (positive opening), an EN418 requirement for export to Europe.
- Complies with Section 12 of SEMI S2-0200.

## Guard Features/Benefits

- Choice of standard guard or narrow flange guard to fit your specific need.
- EMO Guard is designed to balance requirements for protection from inadvertent activation with easy accessibility for palm operation.
- Safety yellow meets background requirements of EN418.
- Meets UL 746C flame test.
- Complies with Section 12 of SEMI S2-0200.

## Typical Bill of Materials

■ EMO Button		ZB4BS5430
■ Guard	Standard	ZB4BZ1905
	Narrow Flange	ZB4BZ2005
■ Contact Blocks	ring tongue	ZB4BZ1029 (N/C)
	ring tongue	ZB4BZ1019 (N/O)



### Side View

### Standard Guard

**Part Number:** ZB4B1905 Telemecanique

**Description:** 22mm mounting, plastic mushroom operator guard. For use with ZBBS5430 EMO Switches

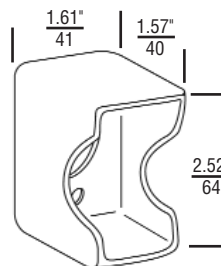
**Material:** ABS

**Color:** PMS 108 C (yellow)

**Flammability:** End product meets 3/4" flame test per UL 746C

**Mounting:** See diagram at left

### Narrow Flange Guard



**Part Number:** ZB4BZ2005 Telemecanique

**Description:** 22mm mounting, plastic mushroom operator guard. For use with ZB4BS5430 EMO Switches

**Material:** ABS

**Color:** PMS 108 C (yellow)

**Flammability:** End product meets 3/4" flame test per UL 746C

**Mounting:** See diagram at left