

RIA R15.06 compliant door switch and controls



Ordering Details

Modular Control Station

BDF200-①-②-③-④-⑤

- ① Top (first) position operator
 - NH E-Stop
 - NHK Collared E-Stop
 - DT* Pushbutton
 - PT* Mushroom button
 - LT** Illuminated button
 - LM** LED signal light
- ② Contact Configuration
 - 11 1 NO / 1 NC
 - 20 2 NO
- ③ Second position operator
 - DT* Pushbutton
 - PT* Mushroom button
 - LT** Illuminated button
 - LM** LED signal light
 - WS† Selector (momentary)
 - WT† Selector (maintained)
 - WTS†† Selector (mixed)
 - SW† Key selector switch
- ④ Third position operator
 - DT* Pushbutton
 - PT* Mushroom button
 - LT** Illuminated button
 - LM** LED signal light
 - SW* Key selector switch
 - W** Selector switch
- ⑤ Bottom position operator
 - DT* Pushbutton
 - PT* Mushroom button
 - LT** Illuminated button
 - LM** LED signal light

- * Color (solid)
- | | | | |
|----|--------|----|-------|
| YE | Yellow | RD | Red |
| GN | Green | BU | Blue |
| BK | Black | WH | White |

- ** Color (translucent)
- | | | | |
|----|--------|----|------|
| YE | Yellow | RD | Red |
| GN | Green | BU | Blue |
| WH | White | | |

- † Directions/Knob type
- | | |
|----|-----------------------|
| 20 | 2 position |
| 21 | 2 position, long knob |
| 30 | 3 position |
| 31 | 3 position, long knob |

- †† Directions/Knob type
- | | |
|----|-----------------------|
| 30 | 3 position |
| 31 | 3 position, long knob |

- † Directions
- | | |
|-----|------------------------|
| S20 | 2 position, momentary |
| T20 | 2 position, maintained |

Overview

The ANSI/RIA R15.06 standard provides safety requirements for industrial robots and robot systems. There are several changes to the revised 2012 standard which will bring the North American requirements to those seen in ISO 10218 to have a more global and harmonized approach on safety; however the overall goal and purpose has remained the same.

Some safeguarding requirements include:

Section 5.4.2 - the safety-related parts of the control systems are to be designed to fulfill the requirements of PLd as per ISO 13849-1

Section 5.5.1 - every robot shall have an E-STOP

Section 5.3.2 - actuating controls which are appropriately designed push-buttons or key selector switch which prevent unintended operation and are labeled to clearly identify their functions (**Section 5.3.4**)

Section 5.10.4.4 - guard locking devices only allow safe outputs when guard is closed and locked, and must provide a means of escape from within hazard area, regardless of the state of the interlock (**Section 5.10.4.5**)

The AZM201 electronic solenoid interlock switch and BDF200 control station can be used together to fulfill the necessary ANSI/RIA R15.06 requirements.

AZM201 – an electronic solenoid interlock with 506 pounds of holding force designed for cells where access to hazardous work areas must be controlled until a safe condition exist. Its door handle actuator is available with an optional inside emergency release handle which mechanically overrides the solenoid lock from inside the hazardous area, allowing operators to leave quickly and safely – even during a power failure. Dual microprocessors provides continuous internal function tests and monitors the door detection sensor and actuator to assure that the guard is closed and locked, meeting both the R15.06 requirements and PLe to ISO13849-1 and SIL 3 to IEC61508, even when wired in series. An integrated RFID sensor allows for individual coding of the actuator. Serial diagnostics is also available to connect to various commercial field bus systems.



BDF200 - designed to offer various machine or process controls conveniently located at the guard door in a housing that matches the AZM201. Each control station can include operators in up to 4 positions which can be configured (and field labeled) to user-defined application needs including an integrated Emergency Stop palm button.

Applications

- Robot cells
- Food processing machinery
- Pharmaceutical machinery
- Medical applications
- Material handling systems
- Packaging machinery
- Chemical processing equipment
- Folding or brake presses
- Filter presses
- Punching machines
- Printing machines
- Injection molding
- Palletizers & packaging equipment

Available Literature



GK-1 Safety Products Catalog
AZM200 page 1-54, BDF200 page 2-16

Ordering Details

Solenoid switch/sensor

AZM201①-②-③-T-④-⑤

- ① Monitoring
 - Z Guard locking monitored
 - B Actuator monitored
- ② Actuator Coding
 - blank Standard version (no coding)
 - I1 Individual coding (single)
 - I2 Individual coding (multiple)
- ③ Connection
 - SK Screw terminals
 - CC Cage clamps
 - ST2 M12, 8 pole connector
- ④ Outputs
 - 1P2PW Closed & locked output
 - SD2P Serial Diagnostic
- ⑤ Locking
 - Blank Power to unlock
 - A Power to lock

Door handle actuator

AZ/AZM201-B30-①TA②③-④

- ① Direction
 - L Left hinged door
 - R Right hinged door
- ② Handle Types (outside)
 - G1 Handle
 - G2 Rotating knob
- ③ Emergency Exit (inside)
 - blank Without
 - P1 Red Door handle
 - P20 Red metal handle
 - P25 Inset rotary knob
 - P30 3 point locking bar
 - P31 3 point with exit handle
- ④ Integrated Lockout Device
 - Blank Without
 - SZ With lockout (3 lock)

Accessories

- | | |
|------------------|----------------|
| SZ200 | Lockout device |
| SZ200-1 | Lockout device |
| MP-AZ/AZM200 | Mounting plate |
| MP-AZ/AZM200-B30 | Mounting plate |
| MP-AZ/AZM200-P1 | Mounting plate |

Compatible Safety Controllers

- | | |
|--------------------|--------------------|
| SRB-E-201LC | SRB-E-322ST |
| SRB-E-201ST | SRB-E-402ST |
| SRB-E-301ST | SRB-E-301MC |
| SRB-E-212ST | |

Bold part numbers are regularly stocked

Contact

Schmersal USA

15 Skyline Drive
Hawthorne, NY 10532
Tel: 914-347-4775
Fax: 914-347-1567
E-mail: salesusa@schmersal.com

Schmersal Canada

29 Centennial Road, Unit 1
Orangeville ON L9W 1R1
Tel: 519-307-7540
Fax: 519-307-7543
E-Mail: salescanada@schmersal.com