SCHMERSAL Tech Briefs:

RIA R15.06 compliant door switch and controls

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.

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

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

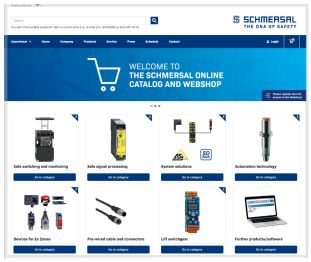
SRB-E-201LC **SRB-E-322ST**
SRB-E-201ST **SRB-E-402ST**
SRB-E-301ST **SRB-E-301MC**
SRB-E-212ST

Bold part numbers are regularly stocked

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

Online Catalog



AZM201
BDF200

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