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 - actuators 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)

Ordering Details

Modular Control Station
BDF200-0-0-0-0-0

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

Ordering Options

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 provide 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

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