Single Source for Machine & Process Safeguarding Solutions

Product Selection and Overview

- Enhanced worker safety through proper safeguarding
- Expert guidance from components to consulting
- Global product support and availability

SAFEGUARDING DEVICES

1. Can the equipment or process be stopped immediately by an electrical signal?
   - NO
   - YES

2. Is there a need to prevent an operator from accessing the equipment until it is stopped?
   - NO
   - YES

3. Is the highest level of safety required (PLd)?
   - NO
   - YES

4. Is protection of an operator’s arm, hand or finger required?
   - NO
   - YES

5. Is additional operator protection required during setup, programming or servicing?
   - NO
   - YES

6. Is monitoring of 3 devices or less required?
   - NO
   - YES

7. Is monitoring of 10 devices or less required?
   - NO
   - YES

8. Is monitoring of 1024 I/O or more required?
   - NO
   - YES

EMERGENCY STOP DEVICES

1. Are there multiple Emergency Stops required along the equipment?
   - NO
   - YES

2. Are there airborne particulates in the environment?
   - NO
   - YES

3. Is switching of voltage or current outside the range of the logic device required?
   - NO
   - YES

4. Is direct STO shutdown of a servo amplifier or drive required?
   - NO
   - YES

SAFETY DEVICE MONITORING AND CONTROL

1. Is monitoring of 3 devices or less required?
   - NO
   - YES

2. Is monitoring of 10 devices or less required?
   - NO
   - YES

3. Is DeviceNET or Stand-alone operation required (up to 1024 I/O)?
   - NO
   - YES

4. Is Safety over EtherCAT or CIP Safety over EtherNet/IP required (up to 1024 I/O)?
   - NO
   - YES

OPERATOR PROTECTION

1. Enabling Switches
2. Safety Interlock Switches: Guardlocking Switches
3. Safety Interlock Switches: Safety Interlock Switches
4. Safety Light Curtains
5. Safety Monitoring Relays
6. Safety Programmable Controllers GSPP
7. Safety Programmable Controllers N1A
8. Safety Programmable Controllers NX-S

INPUT
LOGIC
OUTPUT

OUTPUT DEVICES

1. Force-Guided Relay G7S-E
   - NO
   - YES

2. Force-Guided Relay G7S
   - NO
   - YES

3. Power Contactor with Mirror Contacts J7KNA-AR and G7Z
   - NO
   - YES

* Please refer to www.omron247.com for more information about servos and drives with integrated safety
OMRON Safety Product Offering
Safety Solutions from Components to Consulting for Enhanced Worker Safety

1 Safety Light Curtains
The F3SG global light curtains offers advanced functionality suitable for a wide range of applications. The economy type offers simple on/off operation for basic applications. The F3SG RA and RE both have a robust IP67 waterproof housing and the F3SG-RR has a IP67G oil resistant housing for demanding environments.

2 Safety Laser Scanners
Our OS32C is a very compact safety laser scanner. It has 70 zone configurations for complex guarding parameters. Safety coverage up to 4 m at 270 degrees.

3 Safety Interlock Switches
Tamper resistant switches enhance mechanical guarding methods:
- Guardlocking switches
- Hinge pin switches
- Non-contact switches
- Limit switches
- Tongue switches
- Explosion-proof versions

4 Enabling Switches
Provides the additional protection needed during set-up, programming and servicing of robotic and automatic equipment.
- Has distinct clicks for three easily discernible positions

5 Safety Programmable Controllers
6 Safety Monitoring Relays
The NX-S series of safety controllers offers both Safety over EtherCAT, CIP Safety over Ethernet/IP communication protocols. These controllers can be configured to suit a variety of applications.

The G9SP stand-alone programmable safety controller for mid-sized applications supports direct connection to safety mats and non-contact switches.

The G9SA series of safety relay units offers a basic approach for various simple safety applications. The G9SA offers a full line-up of AC/DC24, AC100-AC240 instantaneous, time-delay and two-hand control monitoring relays.

6 Perimeter Guarding
PA4600 models are available with single and multiple-beam models with an operating range to 70 meters. They’re perfect when installing fences is not practical.

7 Safety Edges & Bumpers

8 Safety Mats & Area Guarding
Safety edges are used on edges of guards and gates at possible crushing or shearing points. Safety bumpers combine a safety edge with foam to provide a larger crush zone.

The new UMA polyurethane Safety Mats provide safety in dirty environments possibly subject to hose down cleaning (IP65).

9 Emergency Stop Devices
- Enclosed and panel-mounted models available with key-operated reset.
- Combination rope and push button actuated emergency stop switches.
- Heavy duty housing offering rope spans to 200 meters

NEW
D4NS
D4SL-N
D4F
D40P/D40R

NEW
A22E/A22NE-P
ER6022

NEW
G9SP
G9SA

NEW
PA4600

NEW
OS32C

NEW
NX-SL3
NX-SL5
Selecting the Right Safety Device for Manufacturing Applications

Safety is the number one responsibility of every manufacturer.

The most challenging applications to ensure safety are those where personnel are required to access areas where potentially hazardous operations take place, such as machining, welding, movement of a robot arm, etc. The best safety device is the one that offers the maximum safety with the minimum impact on machine operations at the lowest possible cost.

This flow chart will help in selecting the most appropriate safety device technology for typical manufacturing applications. The chart organizes safety devices into:

**INPUT** – Devices that capture information from the machine to determine if it can run.

**LOGIC** – Devices that make safety-related decisions.

**OUTPUT** – Devices that interact with equipment in order to ensure the safety of personnel.

This chart is designed to only provide general guidelines and input selections are limited to primary device selection that shuts down equipment. All device selections should be confirmed by a qualified safety expert.

Making Safety Simple

We listen to the needs of our customers and offer expert advice and guidance for the application, integration and maintenance of safeguarding systems. Our goal is to protect personnel and increase overall machine performance.

Choose OMRON Automation & Safety as your machine safety partner.