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Integrity Series

Safety Expansion Relay

INT-05

☐ *INT-05-024*
☐ *INT-05-120*

☐ *INT-05 _____*

Description

The INT-05-024 or INT-05-120 Expansion Safety Relay is intended for use as part of a safety circuit. It provides three additional safe output contacts when used with the INT-03 Safety Monitor Relay or INT-04 Emergency-Stop Safety Relay.

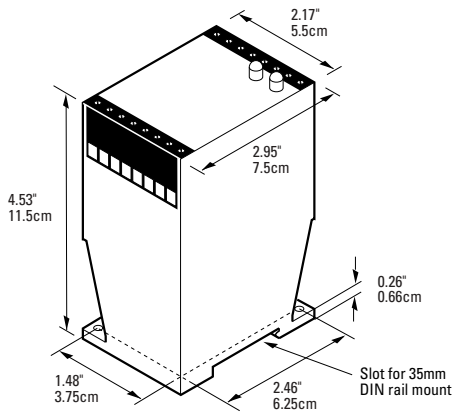
The INT-05 uses positive-guided relays along with feedback contacts to the INT-03 or INT-04 safety relay to prevent machine start-up in the event of a component failure.

Voltage to the INT-05 is switched thru the contacts of the INT-03 or INT-04. If a component failure occurs, the feedback loop to the INT-03 or INT-04 prevents machine restart.

TUV Notes:

1. Relay conforms to Pollution Degree II, meets EN1760-1:1998, and must be installed in an IP54-type enclosure.
2. The wire insulation of connected devices must be rated for 250VAC. The relay meets basic insulation requirements only.
3. Input devices must meet requirements of EN60947-5-1.
4. The relay must be connected to a primary disconnect device that meets the requirements of EN60947-3.
5. Controller meets IP20.
6. Test system before operation and after machine maintenance. Controller does not require maintenance.
7. The complete system should be tested weekly. If a fault occurs, contact Sentrol Industrial.
8. To be used in conjunction with INT-03 or INT-04.

Dimensions



Installation

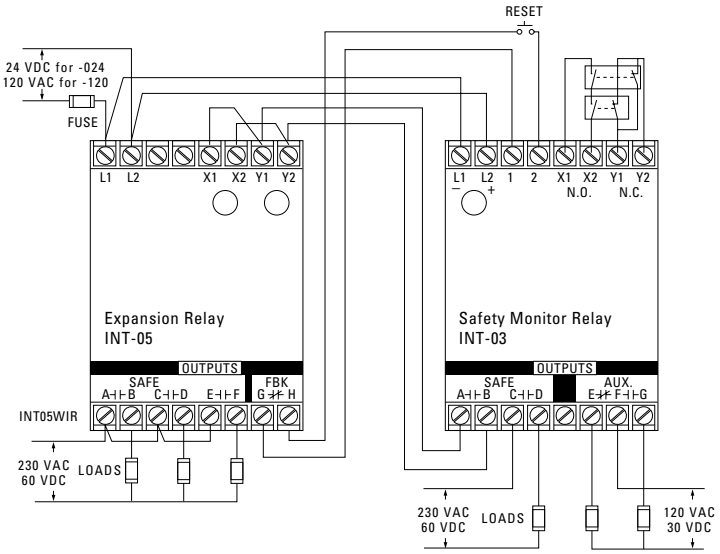
1. Mount the relay on a 35mm DIN rail or panel. See *Dimensions*.
2. Connect the wiring for the switches and relay. See *Wiring Diagrams*. (For proper operation, DO NOT jumper terminal 1 to terminal 2. Use a momentary button.) For floor mat applications, connect the two floor mat loops from terminal X1 to X2 and from Y1 to Y2.

   Caution! The relay is available in either a 24 VDC, 120 VAC, or 230 VAC model. Make sure correct model is used before applying power.
3. Use one of the following methods to energize the relay:

- For E-stop installations, close all E-stop button contacts and monitored contacts, and then press the START button.
- For floor mat installations, press the START button without an object on the mat.

Note: The INT-05 must be wired as shown as the unit on its own does not fulfill any safety requirements.

Typical Wiring Diagram



European Directives
Machinery Directive (98/37/EEC)
Low Voltage Directive (73/23/EEC), LVD
Specific European Standards
EN60204-1 Safety of electrical equipment of industrial machines: 1993
EN954-1 Risk Assessment Category 4
depending on wiring method, See diagrams: 1997
EN50081-2 Electromagnetic Emissions: 1995
EN50082-2 Electromagnetic Immunity: 1995
IEC 664-1 Insulation requirements: 1992
IEC 68, part 2-1, 2-2, 2-3, 2-6, 2-14, 2-27, 2-30.
EN1760-1:1998

Declaration of Conformity available upon request.

General Specifications

UL/CSA/TUV	CSA submitted
Environmental Rating	Pollution Degree II
Temperature Range	32°F to 149°F (-0°C to 65°C)
Relative Humidity	30 to 95% non-condensing

Control Inputs (X1, X2 & Y1, Y2 terminals)

Open-circuit voltage	24VDC
Closed-circuit current	24mA
Max. contact resistance	30 Ohms
Simultaneity	500 ms typical

Safe Outputs (A,B/C,D/E,F terminals)

Voltage	230 VAC/60VDC
Current	4A (resistive) each output
Response time	ON: <40ms, OFF:<30ms
Fuse	4A, 250V, 5 x 20 mm

AUX. Signaling Outputs (F1,F2 terminals)

Voltage	120 VAC/30VDC
Current	1A (resistive)

Note: *Transient protection is required across the load when switching an inductive load.*

File E 122942

Ordering/Electrical Specifications

PART NUMBER	POWER INPUT (L1, L2)	INPUT FUSE REQUIRED
INT-05-024[1]	24VDC +/-15%	Fast acting 1/4A (250V, 5 x 20mm, F)
INT-05-120[2]	120VAC +10% -20%, 5VA, 50/60Hz	Fast acting 80mA (250V, 5 x 20mm, F)

1 Max of 80 expansion relays in series with INT-03 or INT-04.

2 Max of 1 expansion relay in series with INT-03 or INT-04.