## C $\in$

Conforms to EN60204-1, EN954-1, EN292, VDE 0113-1 UL and C-UL listed, BG approved


## SR1OTAD, SHIOBAD and Sh109AD

## Dual Channel Safety Monitoring Relay

- Power requirements-the SR107AD, SR108AD and SR109AD will accept 24 VAC/DC
- Inputs-the SR107AD, SR108AD and SR109AD will accept single or dual N/C inputs or dual PNP solid-state inputs from a light curtain (see SR102AM for application wiring for a light curtain)
- Outputs-the SR107AD, SR108AD and SR109AD have a total of 4 N/O outputs with 3,2 or 1 of the outputs with a time delay of 1-30 sec.
- External Device Monitoring (EDM) is provided with a N/C loop between S12 and S21 on the SR107AD, SR108AD and SR109AD
- Reset mode-a monitored manual start or an auto/manual start may be configured with the SR107AD, SR108AD and SR109AD. Monitored manual reset requires closure of the reset circuit followed by opening of the circuit. Reset occurs when circuit is opened. Auto reset requires only closure of the reset circuit as reset occurs when circuit is closed.
- PLC Compatible—The N/O off delayed outputs make it possible to use the SR107AD, SR108AD and SR109AD on machines with Programmable Logic Controllers that require some time to execute an orderly shutdown



## Terminal Connections and Output Contact Arrangements

| SR107AD | SR108AD | SR109AD |
| :---: | :---: | :---: |
| ¢NAF | ¢ | $\cdots$ |
| $\theta \theta \theta \theta$ | $\theta \otimes \theta \theta$ | $\theta \otimes \theta \theta$ |
| $\otimes \otimes \otimes \otimes$ | $\otimes \otimes \otimes \theta$ | $\otimes \otimes \theta \otimes$ |
|  |  |  |
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| N |  |  |
| $\otimes \otimes \theta \otimes$ | $\otimes \otimes \theta \theta$ | $\otimes \otimes \otimes \otimes$ |
| $\theta \otimes \theta \theta$ | $\theta \otimes \theta \theta$ | $\otimes \otimes \theta \theta$ |
|  |  |  |
| $\begin{array}{llll}13 & 27 & 37 & 47\end{array}$ | $\begin{array}{lllll}13 & 23 & 37 & 47\end{array}$ | $\begin{array}{llll}13 & 23 & 33 & 47\end{array}$ |
| - | - | $\bigcirc$ |
| - $\rightarrow-\cdots$ |  | - |
| $\left[\begin{array}{c} -x-0-1 \\ -0-0 \end{array}\right.$ |  | --0- |
| $\begin{array}{llll}14 & 28 & 38 & 48\end{array}$ | $\begin{array}{llll}14 & 24 & 38 & 48\end{array}$ | $\begin{array}{llll}14 & 24 & 34 & 48\end{array}$ |

## SR107AD, SR108AD and SR109AD

- Block Diagram




## - Specifications

| Electrical | All Models | SR107AD | SR108AD | SR109AD |
| :---: | :---: | :---: | :---: | :---: |
| Power Supply: | $\pm 10 \%, 50-60 \mathrm{~Hz}, 24 \mathrm{VAC} / \mathrm{DC}$ |  |  |  |
| Power Consumption: | 4.6 W |  |  |  |
| Safety Inputs: | $1 \mathrm{~N} / \mathrm{C}$ or $2 \mathrm{~N} / \mathrm{C}$ |  |  |  |
| Max Input Resistance: | 800 Ohms per channel |  |  |  |
| Outputs: |  | $1 \mathrm{~N} / \mathrm{O}+3$ | $2 \mathrm{~N} / \mathrm{O}+2 \mathrm{~N} / 0$ delayed | $3 \mathrm{~N} / 0+1 \mathrm{~N} / \mathrm{O}$ delayed |
| Auxiliary Outputs: | None |  |  |  |
| Max Switched AC: | Inductive AC-15, 3 A/250 VAC; Resistive AC-12, $8 \mathrm{~A} / 250 \mathrm{~V}$ |  |  |  |
| Max Switched DC: | Inductive DC-13, 3 A/24 VDC; Resistive DC-12, $8 \mathrm{~A} / 50 \mathrm{~V}$ |  |  |  |
| Min Switched Current/Voltage: | $10 \mathrm{~mA} / 24 \mathrm{~V}$ |  |  |  |
| Impulse Withstand Voltage: | 2500 V |  |  |  |
| Max Drop-Out Time: | 10 ms ( 75 ms by removing supply voltage) |  |  |  |
| Max Output Fuse: | 8 A quick-acting fuse or 6 A slow-acting fuse |  |  |  |
| Start Mode: | Monitored manual (S11-S21) or auto/manual (S12-S21) |  |  |  |
| External Device Monitoring (EDM): | N/C loop between S12 and S21 |  |  |  |
| Mechanical |  |  |  |  |
| Mounting: | 35 mm (1.38 in.) DIN rail |  |  |  |
| Case Material: | Polyamide PA6.6 |  |  |  |
| Max Wire Size: | $1 \times 2.5 \mathrm{~mm}^{2}$ (14 AWG) stranded |  |  |  |
| Weight: | 250 g (8.8 oz.) |  |  |  |
| Color: | Red |  |  |  |
| External Switches: | Output delay adjustment (1 to 30 sec.) |  |  |  |
| Indication: | 4, status displays for relays K1 to K4 |  |  |  |
| Mechanical Life: | $1 \times 10^{6}$ operations |  |  |  |
| Environmental |  |  |  |  |
| Enclosure Protection: | IP20 terminals, IP40 (NEMA 1) housing |  |  |  |
| Operating Temperature: | -15 to $40^{\circ} \mathrm{C}\left(-5\right.$ to $\left.140^{\circ} \mathrm{F}\right)$ |  |  |  |
| Humidity: | $93 \%$ RH at $104^{\circ} \mathrm{C}\left(219^{\circ} \mathrm{F}\right)$ |  |  |  |
| Compliance |  |  |  |  |
| Standards: | EN60204-1, EN954-1, VDE 0113 part 1 |  |  |  |
| Approvals/Listings: | CE-marked for all applicable directives, UL and C-UL, BG |  |  |  |
| Safety Category: | Cat. 4 per EN954-1 (SR107, SR108, SR109 internal operation) |  |  |  |

Specifications are subject to change without notice.
Note: The safety contacts of the Omron STI switches are described as normally closed ( $\mathrm{N} / \mathrm{C}$ )-i.e., with the guard closed, actuator in place, and the machine able to be started.

## - Ordering

| Model | Supply | Inputs | Immediate Outputs | Delayed Outputs | Part No. |
| :--- | :---: | :---: | :---: | :---: | :---: |
| SR107AD01 | 24 VAC/DC | 2 N/C | 1 N/0 | 3 N/O | $44510-1071$ |
| SR108AD01 | 24 VAC/DC | 2 N/C | 2 N/0 | 2 N/0 | $44510-1081$ |
| SR109AD01 | 24 VAC/DC | $2 N / C$ | $3 N / 0$ | 1 N/0 | $44510-1091$ |

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