



## RS-408/RSM-408

8-port Redundant Ring Switch with
Isolated Power Input +10 VDC ~ +30 VDC

### Features

- Automatic MDI/MDI-X crossover for plug-and-play
- Store-and-forward architecture
- Each port supports both 10/100 Mbps speed auto negotiation
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- Modbus remote monitoring
- Supports Modbus OPC Server
- Absolutely free of software setting
- Built-in Cyber-Ring redundant technique

## Introduction

The RS-408/RSM-408 series is a 8-port Industrial Ethernet (10/100 Base-TX) Real-time Redundant Ring Switch. RS-408/RSM-408 supports 10/100M auto negotiation feature and auto MDI/MDI-X function, it can automatically switch the transmission speed (10 Mbps or 100 Mbps) for corresponding connections.

Built-in ICP DAS Cyber-Ring technique enables multiple switches to be placed into a redundant ring. Typically the switch detects and recovers from a copper link failure within approximately 20 ms – for the majority of applications, it is seamless process. The RS-408/RSM-408 series is much more easy to use and absolutely free of software setting. After unpacking the shipping case, it just takes one or two dip or rotary switch to make it work.

RS-408/RSM-408 provides two power inputs that can be connected simultaneously to live DC power sources. If one of the power inputs fails, the other live source will act as a backup to automatically support the it's power needs. And the relay output facility can deliver warning signal while power or network link failure.

## Comparison Table of 8-port Real-time Redundant Ring Switch



| Mode Name | RS-408 | RSM-408 |
|---|---|---|
| Input Voltage Range | +10 VDC ~ +30 VDC | |
| Casing | Plastic | Metal |
| Installation | DIN-Rail Mounting | DIN-Rail Mounting or Wall Mounting |
| Dimensions (W x L x H) | 64 mm x 118 mm x 98 mm | 73 mm x 132 mm x 103 mm |

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## Specifications

| Model | RS-408 | RSM-408 |
|---|---|---|
| **LED Indicators** | | |
| Status | Power, 10/100M, Link/Act, Master | |
| **Ethernet** | | |
| Ports | 8 x RJ-45, 10/100Base-TX | |
| Standards | IEEE 802.3, IEEE 802.3u, IEEE802.3x | |
| Processing Type | Store & forward wire speed switching | |
| MAC Table | 2048 | |
| Memory Bandwidth | 3.2 Gbps | |
| Frame Buffer Memory | 1 Mbit | |
| Flow Control | IEEE 802.3x flow control, back pressure flow control | |
| Protocol | Modbus/RTU, Modbus/TCP | |
| Redundant Strategy | STP, Ring (ICP DAS) | |
| Isolation | 1500 Vrms 1 minute | |
| DIP Switch | Yes,<br>1x Redundancy mode configuration<br>1x Max. Recovery time selection | |
| **COM Ports** | | |
| Ports | 1 x RS-232/RS-485 | |
| **Power** | | |
| Reverse Polarity Protection | Yes | |
| Input Range | +10 ~ +30 VDC (Isolation,redundant input) | +10 VDC ~ +30 VDC Redundant Dual Inputs (Isolated) |
| Redundant Power Inputs | Yes | |
| Consumption | 0.3 A @ 24 VDC | |
| Alarm Output | Yes, Relay 2 A @ 30 VDC | |
| **Mechanical** | | |
| Casing | Plastic | Metal |
| Dimensions (mm) | 64 x 118 x 98 (W x L x H) | DIN-rail mounting: 73 x 118 x 103 (W x L x H)<br>Wall mounting: 73 x 132 x 103 (W x L x H) |
| Installation | DIN-Rail Mounting | DIN-rail mounting or wall mounting |
| Ingress Protection Rating | - | IP30 |
| **Environment** | | |
| Operating Temperature | -40°C ~ + 75°C | |
| Storage Temperature | -40°C ~ + 85°C | |
| Humidity | 10 ~ 90% RH, non-condensing | |

## DIP/Rotary Switches

### SW1: Redundancy mode configuration




| | OFF | ON |
|---|---|---|
| 1 | Redundancy Mode | Tradition Mode |
| 2 | Normal State | Default Setting |
| 3 | Primary Switch | Secondary Switch |
| 4 | Ring Protocol | STP Protocol |
| 5 | Disable Ring Pair2 | Enable Ring Pair2 |
| 6 | Disable Ring Pair1 | Enable Ring Pair1 |

### SW2: Max. Recovery time selection




Bit

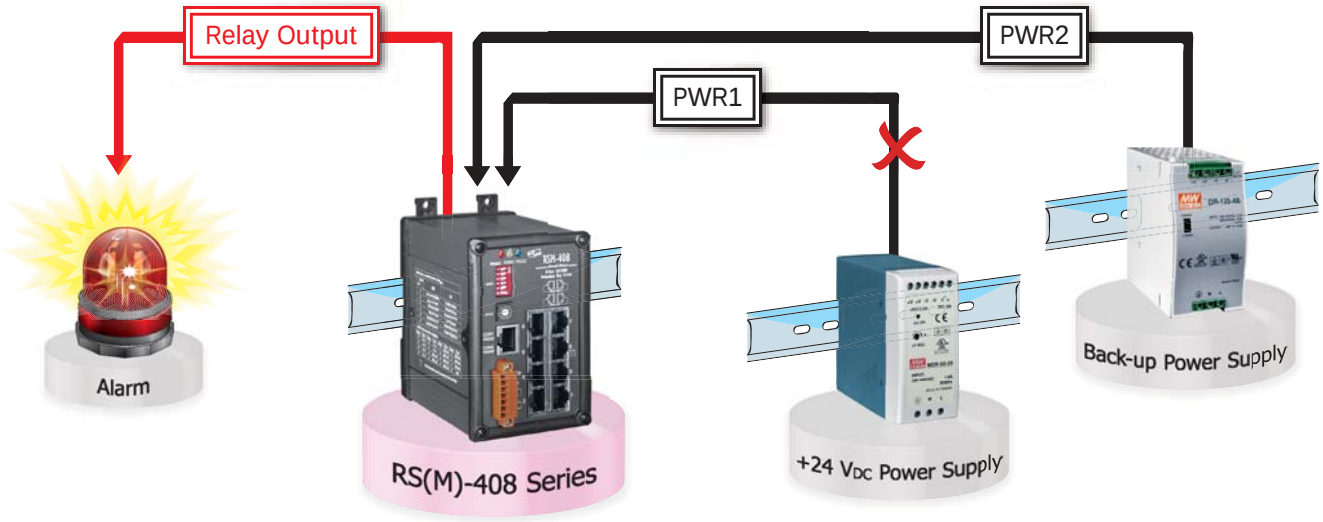
| State | Time | State | Time | State | Time |
|---|---|---|---|---|---|
| F | 1.5 s | 9 | 900 ms | 3 | 300 ms |
| E | 1.4 s | 8 | 800 ms | 2 | 200 ms |
| D | 1.3 s | 7 | 700 ms | 1 | 100 ms |
| C | 1.2 s | 6 | 600 ms | 0 | N/A |
| B | 1.1 s | 5 | 500 ms | | |
| A | 1.0 s | 4 | 400 ms | | |

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## Applications

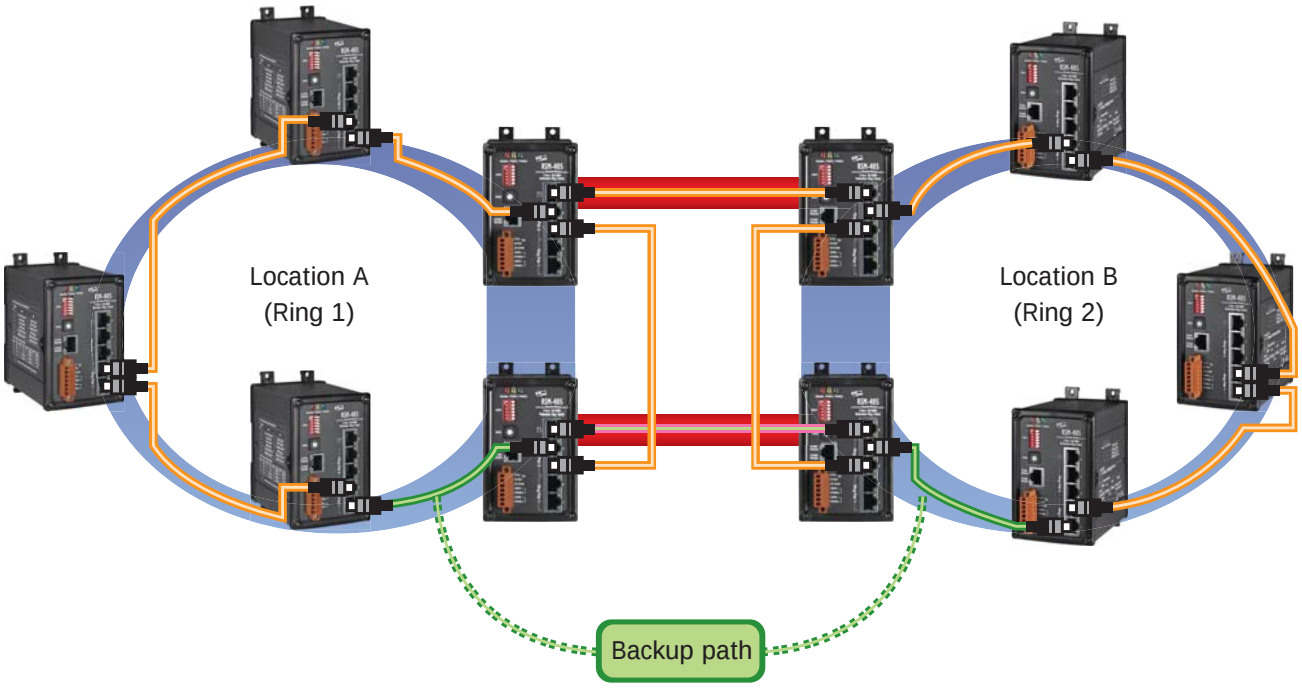
### Redundant Power Inputs

Both power inputs can be connected simultaneously to live DC power sources.
If one power source fails, the other live source will act as a backup, and automatically supplies all of RS-408/ RSM-408 series power needs.



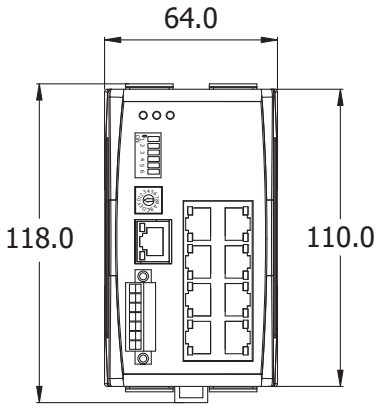
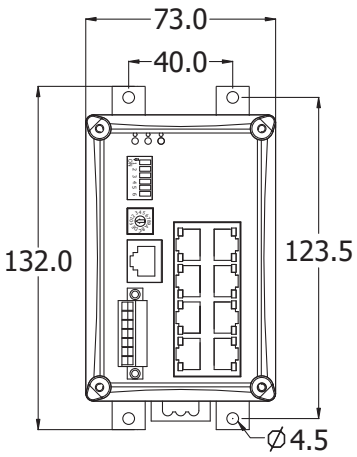
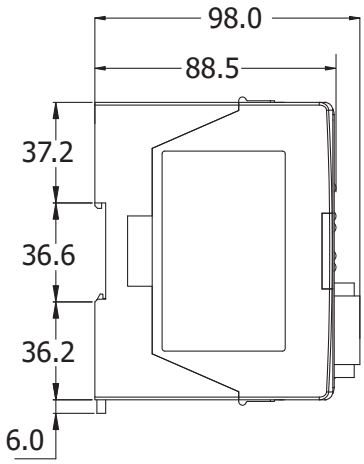
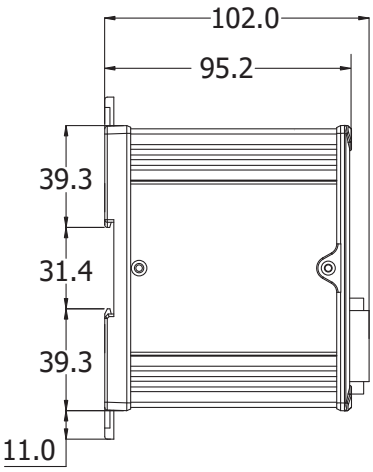

### Double Ring Coupling

Double Ring Coupling is the enhanced version of Ring Coupling topology. It improves the reliability of Ring Coupling topology. In Double Ring Coupling topology, there are two coupling points providing redundant coupling path of two rings.




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## Dimensions (Units: mm)

| RS-408 | RSM-408 |
|---|---|
|  |  |
| Front View | Front View |
|  |  |
| Left Side View | Left Side View |



## Ordering Information

| | |
|---|---|
| **RS-408 CR** | 8-port Redundant Ring Switch with Isolated Power Input +10 VDC ~ +30 VDC (RoHS) |
| **RSM-408 CR** | 8-port Redundant Ring Switch with Isolated Power Input +10 VDC ~ +30 VDC, metal casing (RoHS)<br>Includes 4SNPNA010021G Wall mount |

## Accessories

| | | |
|---|---|---|
|  | **CA-090510 CR** | DB9 Female to RJ-45 Cable, 1M (RoHS) |

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