

RS-405F/RS-405AF/RSM-405F/RSM-405AF Series

5-port Real-time Redundant Ring Switch with 2-Fiber Port

Features

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

Introduction

The RS-405F/RS-405AF/RSM-405F/RSM-405AF series is a 5-port Industrial Ethernet Real-time Redundant Ring Switch with 2-Fiber Port that secures data transmission by using fi ber optic transmission to provide immunity from EMI/RFI interference.

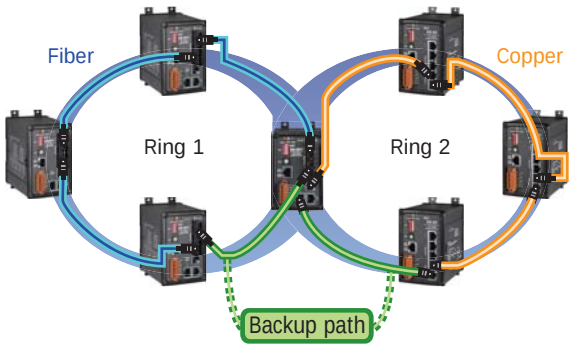
Built-in ICP DAS Cyber-Ring technique enables multiple switches to be placed into a redundant ring. Typically the switch detects and recovers from a fi ber or copper link failure within approximately 20 ms – for the majority of application, it is seamless. After unpacking the shipping case, it just takes one or two dip or rotary switch to make it work.

RS-405F/RS-405AF/RSM-405F/RSM-405AF 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.

Applications

Ring Coupling

The Ring Coupling topology can connect separate Cyber-Ring network together. It is ideal for two-ring application scene.
The Ring Coupling topology not only construct individual Cyber-Ring network for each floor but also provide backup path to each other. It is a cost-effective solution to coupling ring topology.



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



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		

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

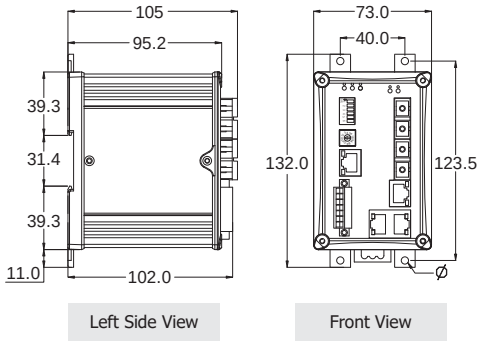
Specifications

Model	RS-405FC/FCS RS-405FT	RSM-405FC/FCS RSM-405FT	RS-405AFC/AFCS RS-405AFT	RSM-405AFC/AFCS RSM-405AFT
LED Indicators				
Status	10/100M, Link/Act/Backup, Full duplex/Half duplex (Fiber Port)			
Ethernet				
Ports	3 x RJ-45, 10/100Base-TX			
Standards	IEEE 802.3, IEEE 802.3u, IEEE802.3x			
Processing Type	Store & forward wire speed switching			
MAC Table	1024			
Memory Bandwidth	3.2 Gbps			
Frame Buffer Memory	512 Kbit			
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, 1x Redundancy mode configuration 1x Max. Recovery time selection			
Fiber				
Ports	2-port 100 Base-FX SC connector			
	2-port 100 Base-FX ST connector			
Mode	Multi Mode			
Fiber Cable	50/125, 62.5/125 or 100/140 gm			
Distance	2 km, (62.5/125 gm recommended) for full duplex			
Wavelength	1300 or 1310 nm			
TX Output	-20 dBm Min. -14 dBm Max.			
RX Sensitivity	-32 dBm Max.			
RX Overload	-8 dBm Max.			
Budget	12 dBm			
COM Ports				
Ports	1 x RS-232/RS-485			
Power				
Reverse Polarity Protection	Yes			
Input Range	+10 ~ +30 VDC (Isolation,redundant input)		+12 ~ +48 VDC (Isolation, redundant input)	
Redundant Power Inputs	Yes			
Consumption	0.4 A @ 24 VDC			
Alarm Output	Yes, Relay 2 A @ 30 VDC			
Mechanical				
Casing	Plastic	Metal	Plastic	Metal
Dimensions (mm)	64 x 118 x 101 (W x L x H)	DIN-rail mounting: 73 x 118 x 105 (W x L x H) Wall mounting: 73 x 132 x 105 (W x L x H)	64 x 118 x 101 (W x L x H)	DIN-rail mounting: 73 x 118 x 105 (W x L x H) Wall mounting: 73 x 132 x 105 (W x L x H)
Installation	DIN-Rail Mounting	DIN-rail mounting or wall mounting	DIN-Rail Mounting	DIN-rail mounting or wall mounting
Ingress Protection Rating	IP30			
Environment				
Operating Temperature	0 °C ~ + 70 °C		-30 °C ~ + 75 °C	
Storage Temperature	-20 °C ~ + 85 °C		-40 °C ~ + 85 °C	
Humidity	10 ~ 90% RH, non-condensing			

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

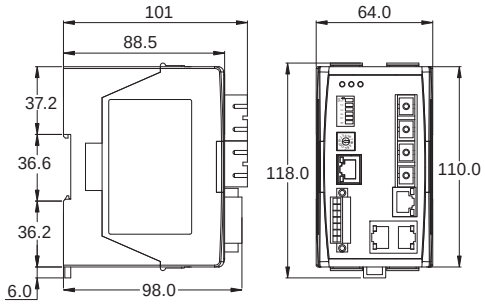
Dimensions (Units: mm)

RSM-405F Series



Left Side View | Front View

RS-405F Series



Left Side View | Front View

Ordering Information

RS-405FT CR	5-Port Real-time Redundant Ring Switch with 2-Fiber Port, Multi Mode, ST Connector (RoHS)
RS-405FC CR	5-Port Real-time Redundant Ring Switch with 2-Fiber Port, Multi Mode, SC Connector (RoHS)
RS-405FCS CR	5-Port Real-time Redundant Ring Switch with 2-Fiber Port, Single Mode, SC Connector (RoHS)
RSM-405FT CR	5-Port Real-time Redundant Ring Switch with 2-Fiber Port, Multi Mode, ST Connector with metal case (RoHS) Includes 4SNPNA010021G Wall mount
RSM-405FC CR	5-Port Real-time Redundant Ring Switch with 2-Fiber Port, Multi Mode, SC Connector with metal case (RoHS) Includes 4SNPNA010021G Wall mount
RSM-405FCS CR	5-Port Real-time Redundant Ring Switch with 2-Fiber Port, Single Mode, SC Connector with metal case (RoHS) Includes 4SNPNA010021G Wall mount
RS-405AFC-T CR	5-Port Real-time Redundant Ring Switch with 2-Fiber Port, Multi Mode, SC Connector (+12 ~ +48 VDC) (RoHS)
RS-405AFCS-T CR	5-Port Real-time Redundant Ring Switch with 2-Fiber Port, Single Mode, SC Connector with metal case (+12 ~ +48 VDC) (RoHS)
RS-405AFT-T CR	5-Port Real-time Redundant Ring Switch with 2-Fiber Port, Multi Mode, ST Connector (+12 ~ +48 VDC) (RoHS)
RSM-405AFC-T CR	5-Port Real-time Redundant Ring Switch with 2-Fiber Port, Multi Mode, SC Connector with metal case (+12 ~ +48 VDC) (RoHS) Includes 4SNPNA010021G Wall mount
RSM-405AFCS-T CR	5-Port Real-time Redundant Ring Switch with 2-Fiber Port, Single Mode, SC Connector (+12 ~ +48 VDC) (RoHS)
RSM-405AFT-T CR	5-Port Real-time Redundant Ring Switch with 2-Fiber Port, Multi Mode, ST Connector (+12 ~ +48 VDC) (RoHS)

Accessories

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

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000