

RCINGE16F2-MS Series Managed 16x 10/100/1000Base-T and 2x 1G (SFP) Ethernet Switch

The Rancent RCINGE16F2-MS is an Industrial Gigabit L2 Managed Switch equipped with sixteen 10/100/1000Mbps RJ45 ports and two 1000M SFP (fiber) uplink ports that provide stable and reliable Ethernet transmission. For fast and efficient connectivity from the network edge device to a backbone switch or server, the layer 2 managed Gigabit Ethernet switch is designed to extend existing LANs through one 1000Base-SX/LX/EX/BX SFP interface using either one or two multimode or singlemode fibers. The Industrial Managed Switches are fully managed Layer 2 switches not only incorporating the industry standard Rapid Spanning Tree Protocol (IEEE802.1w RSTP), but also a rapid ring recovery protocol enabling operational network recovery in the event of a network or power system failure.



Typical Applications

- Any network utilizing a mix of copper and fiber
- Industrial IP connectivity and communication
- Self-healing Gigabit Ethernet backbone networks
- Networks using Ethernet devices such as network cameras, access control, intercoms, etc

Product Features

- 16-Port 10/100/1000Base-T Gigabit Ethernet RJ-45 Ports
- 2-Port 1000Base-SX/LX/EX/BX SFP Type Slots
- Non-blocking store-and-forward switching
- RJ45 Port Supports 10/100/1000Mbps-Full/Half-duplex, Auto-negotiation, Auto MDI/MDIX
- Prevents Packet Loss w/Back Pressure (Half-Duplex) and IEEE 802.3x PAUSE Frame Flow Control (Full-Duplex)
- Available for operation in Ring or point-to-point configuration
- Available for operation over singlemode or multimode fiber over a variety of link budget
- Redundant dual power supply inputs 48/52 VDC
- 4KV Ethernet Surge Protection for harsh environment
- -40°C to 80°C (-40°F to 176°F) wide range operating temperature
- Real-time monitoring via Embedded Surveillance Device Management System
- Compact, corrosion resistant case attaches to a standard DIN Rails

Specifications

Physical Ports

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|---------------------|------------------------------|
| Copper Ports (RJ45) | 16 x 10/100/1000Base-T |
| SFP Uplink Ports | 2 x 1000Base-SX/LX/EX/BX SFP |
| Port Configuration | Auto MDI/MDI-X |
| Port Speed | Auto-negotiate |

Ethernet

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|---------------------|---|
| Switch Architecture | Store-and-forward |
| Switch Bandwidth | 40Gbps (non-blocking) |
| MAC Address | 8K entries |
| Maximum Frame Size | 9.6K Bytes (Jumbo Frames) |
| Flow Control | Back pressure(Half-Duplex); IEEE 802.3x Pause Frame (Full-Duplex) |

Layer 2 Functions

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|--------------------------|---|
| Management Interface | Console, Cisco® like CLI,telnet, Web browser,SSH/SSL secure access, SNMPv1 and v2c and v3c |
| Port Configuration Port | enable/disable; Auto-negotiation; 10/100/1000Mbps full-and-half duplex mode selection; Flow control |
| Port Mirroring | TX/RX/Both; Many to 1 monitoring |
| Bandwidth Control | Ingress/Egress rate control: configure (100~1000000)Kbps Full Speed 1000000Kbps |
| VLAN | IEEE 802.1q tagged-based VLAN, up to 256 VLANs groups, out of 4094 VLAN IDs Port-based VLAN. Port-based VLAN, Q-in-Q tunneling, Mac-based VLAN, up to 256 VLANs Protocol-based VLAN, up to 128 VLANs MVR (Multiple VLAN Registration) |
| Link Aggregation | IEEE 802.3ad LACP / Static Trunk; Up to 5 groups of trunk supported |
| Quality of Service (QoS) | 8 priority queue Traffic classification based on: IEEE802.1p Based Cos, IP DSCP Based Cos |
| Multicasting/IGMP | IGMP/MLD Snooping (v1,v2, v3) With Query supported |
| Access Control List | IP-Based ACL/MAC-Based ACL, 256 entries |
| SNMP MIBs | RFC-1213 MIB-II RFC-2819 RMON MIB (Group 1, 2, 3,9) |

Fiber

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|---------------------|----------------------|
| Data Rate | 1000Base-SX/LX/EX/BX |
| Connector | SFP (Mini-GBIC) port |
| Fiber Type/Distance | Varies by SFP module |

LED Indicators & Switch

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|---------------------|---|
| Power | On/Green |
| Ethernet | 10/100 LNK/ACT - Amber; 1000 LNK/ACT - Green |
| SFP Ports (FX1/FX2) | On/Blink - Green |

Electrical and Mechanical

| | |
|---------------------|-------------------------|
| Power Input Voltage | 100~240VAC, 50/60Hz |
| Power Consumption | 18 Watts |
| Dimensions | 483x 280x 45mm |
| Case | IP30 Metal Case |
| Storage Temperature | -40°C~+80°C |
| Relative Humidity | 0%~95% (non-condensing) |

Standards Compliance

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|--------------------------|--|
| Regulatory Standard | CE; FCC Part 15 Class A |
| IEEE/RFC Standards | |
| IEEE 802.3i | 10Base-T |
| IEEE 802.3u | 100Base-TX |
| IEEE 802.3ab | 1000Base-T |
| IEEE 802.3z | 1000Base-SX/LX |
| IEEE 802.3x | Flow Control and Back pressure |
| IEEE 802.1d | STP (Spanning Tree Protocol) |
| IEEE 802.1w | RSTP (Rapid Spanning Tree Protocol) |
| IEEE 802.1s | MSTP (Multiple Spanning Tree Protocol) (Ethernet Ring Protection Switch) |
| ITU-T G.8032/Y.1344 ERPS | QoS/CoS Protocol for Traffic Prioritization |
| IEEE 802.1p | VLAN Tagging |
| IEEE 802.1Q | Stacked VLAN,Q-in-Q |
| IEEE 802.1ad | LLDP(Link Layer Discovery Protocol) |
| IEEE 802.1ab | Port Authentication Network Control |
| IEEE 802.1X | Port trunk with LACP (Link Aggregation Control Protocol) |
| IEEE 802.3ad | EEE (Energy Efficient Ethernet) |
| IEEE 802.3az | |
| IEC Standards | IEC60068-2-32 (Free fall) IEC60068-2-27 (Shock) IEC60068-2-6 (Vibration) |

Dimensional Diagrams

