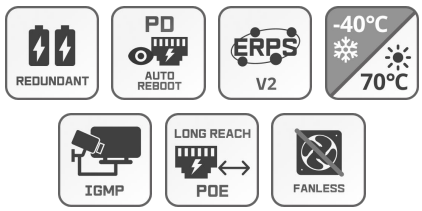
# FR-7M3016P • FR-7M3016BT

Industrial L2+ Managed 8-port 10/100/1000Base-TX (PoE+/PoE++) Ethernet Switch with Redundant DC Power Inputs






## Main Features

### Layer 2+ Features

- ERPSv2 redundant ring (<20ms) & STP/RSTP/MSTP
- 802.1Q VLAN, QinQ, and GVRP
- Dynamic LACP and static trunking
- IGMP Snooping v1/v2/v3 and Fast Leave
- QoS rate limiting, CoS, and 802.1p priority
- IPv4 static routing & VLAN interfaces

### Software Management

- WebGUI, CLI, and NMS management
- SNMPv1/v2c/v3, LLDP, and SNTP
- Port mirroring and HTTP firmware updates
- Modbus TCP/RTU & serial protocol conversion

### Security

- IEEE 802.1X and RADIUS authentication
- MAC/IP-based ACL
- DHCP Snooping with Option 82
- SSHv2 and TLSv1.2 secure access

### PoE Functions

- 802.3at/bt PoE (30W/90W per port)
- PoE scheduling / Auto PD reboot
- Long reach PoE 250m, data rate at 10Mbps
- PoE budget & usage threshold monitoring

### Industrial Features

- Operating temperature -40°C to +75°C
- Redundant DC power inputs / Alarm relay
- High ESD/surge protection / Fanless
- DIP switch (RSTP / VLAN / SFP speed)
- NDAA & RoHS compliant

CE FC

Protected by hardware warranty
Advance replacement. Global coverage.

View policy on Fiberroad's website.

# Product Specifications

## FR-7M3016P • FR-7M3016BT



| Product | FR-7M3016P | FR-7M3016BT |
|---|---|---|
| **Interface** | | |
| RJ45 Ports | 16x10/100/1000BASE-T | |
| Console | 1x RJ45-to-RS232 Serial Port(115200) | |
| DIP Switch | RSTP; VLAN ; SFP speed | |
| **Electrical and Mechanical** | | |
| Input Voltage | Dual 48-56VDC | Dual 52-56VDC |
| Power Consumption | 14 Watts Max (without PoE load) | |
| PoE Ports | Port 1 to 16 IEEE802.3 af/at | Port 1 to 16 IEEE802.3af/at/bt |
| PoE Power Supply Type | End-span | |
| Power Supply Pin | 1/2(+),3/6(-) | 1/2(+), 3/6(-) or 4/5(+), 7/8(-) |
| Max Power Per Port | 30W | 90W |
| Max. PoE Power Budget | 240W | 240W |
| Surge Protection | ±6kV DC, ±6kV RJ45 | |
| Enclosure | IP40 aluminum case | |
| Dimension | 160 x 132 x 70mm, 1.46kg | |
| **Standards** | | |
| IEEE 802.3 | 10BaseT | |
| IEEE 802.3u | 100BaseT(X) and 100BaseFX | |
| IEEE 802.3ab | 1000BaseT(X) | |
| IEEE 802.3x | Flow Control | |
| IEEE 802.1p | Class of Service | |
| IEEE 802.1Q | VLAN Tagging | |
| IEEE 802.1x | Authentication | |
| IEEE 802.3ad | Port Trunk with LACP | |
| IEEE 802.1D | Spanning Tree Protocol | |

# Product Specifications

## FR-7M3016P • FR-7M3016BT



| Product | FR-7M3016P | FR-7M3016BT |
|---|---|---|
| **Standards** | | |
| IEEE 802.1w | Rapid Spanning Tree Protocol | |
| IEEE 802.1s | Multiple Spanning Tree Protocol | |
| IEEE 802.1ad | Q-in-Q tunneling | |
| **Switching** | | |
| Switch Architecture | Store-and-Forward | |
| Switch Fabric | 56Gbps/non-blocking | |
| Forwarding Rate | 23.8Mpps(64-byte packet size) | |
| Packet Buffer Size | 4 Mbits | |
| Maximum Packet Length | 10K bytes | |
| MAC Address Table | 8K entries, automatic source address learning and aging | |
| Flow Control | IEEE 802.3x pause frame for full duplex, Back pressure for half duplex | |
| **Software Features** | | |
| Port Configuration | Port(Admin Status) disable/enable<br>Copper Port: Auto-negotiation 10/100/1000Mbps full and half duplex mode selection<br>Fiber Port: 100M/1000M speed selection<br>Flow Control disable/enable<br>Power saving(EEE) disable/enable<br>Each port description | |
| Port Status | Display each ports' speed duplex mode, link status, flow control status, auto negotiation status, Fiber Port Information, Port Traffic | |
| Port Mirroring | Source Ingress/ Egress Port/ Both, Many-to-1 monitor | |
| VLAN | Up to 4K VLAN groups, out of 4094 VLAN IDs<br>IEEE 802.1Q tag-based VLAN<br>IEEE 802.1AD Q-in-Q tunneling(Double VLAN)<br>GVRP(Generic VLAN Registration Protocol) | |
| Link Aggregation | IEEE 802.3ad LACP/Static trunk<br>Supports 6 trunk groups with 4 ports per trunk | |
| Spanning Tree Protocol | IEEE 802.1D Spanning Tree Protocol<br>IEEE 802.1w Rapid Spanning Tree Protocol<br>IEEE 802.1s Multiple Spanning Tree Protocol | |

# Product Specifications

## FR-7M3016P • FR-7M3016BT



| Product | FR-7M3016P | FR-7M3016BT |
|---|---|---|
| **Software Features** | | |
| Multicast | Dynamic/Static Multicast groups<br>IGMP Snooping v1,2,3<br>Port-based IGMP Snooping Fast Leave<br>GMP Querier | |
| Rate Limitation | Per Port Rate Limitation<br>Ingress: 16-1000000 kbps/Egress: 16-1000000 kbps | |
| Ring | ITU-T G.8032 ERPS, Recovery time<20ms | |
| QoS | Traffic classification based, strict priority and WRR<br>8-level priority for switching<br>-Port number<br>-802.1p priority<br>-802.1Q VLAN tag<br>-DSCP/TOS field in IP Packet | |
| ACL | IP-based ACL/MAC-based ACL<br>ACL based on:<br>-MAC Address<br>-IP Address<br>-Ethertype<br>-Protocol Type<br>-VLAN ID<br>-DSCP<br>-802.1p Priority | |
| Security | Port Security<br>Static MAC address<br>IEEE 802.1x port-based network access control<br>RADIUS authentication<br>DHCP Snooping, DHCP option 82 | |
| **PoE Management Functions (PoE Model)** | | |
| PoE System Management | PoE Port status monitoring<br>Total PoE power budget control<br>PoE usage threshold and temperature threshold<br>PoE port Priority<br>PoE mode(PoE/PoE+/PoE++)<br>PD reboot(Zero Traffic Duration) | |
| PoE Schedule | Absolute/Periodic Mode | |
| **Layer 3 Functions** | | |
| IP Interfaces | Max. 8 VLAN interfaces | |
| Routing Table | Max.32 routing entries | |
| Routing | IPv4 software static routing | |

# Product Specifications

## FR-7M3016P • FR-7M3016BT

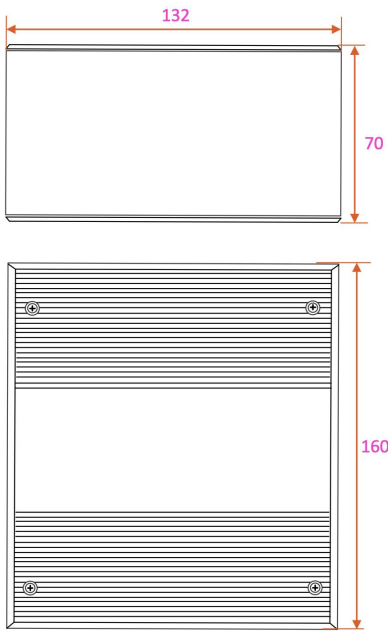


| Product | FR-7M3016P | FR-7M3016BT |
|---|---|---|
| **Management** | | |
| Basic Management Interface | Console; Telnet; Web browser; SNMPv1/v2c | |
| Secure Management Interface | SSHv2, TLSv1.2, SNMPv3 | |
| System Management | Firmware Upgrade by HTTP protocol through Ethernet network<br>Configuration upload/download through HTTP<br>Remote syslog, System log<br>LLDP protocol, SNTP<br>PREVIEW NMS<br>Alarm(Relay, Led, Temperature, Trap, Power) | |
| **Environmental** | | |
| Operating Temperature | -40°Cto +75°C(-40 to 167 °F) | |
| Storage Temperature | -40°Cto +85°C(-40 to 185 °F) | |
| Operating Humidity | 5%~95% (non-condensing) | |
| MTBF | 907,476 hours @ Telcordia SR-332 Standard | |
| Cooling | Passive Cooling, Fanless Design | |
| Noise Level | 0 dBA | |
| **Regulatory & Warranty** | | |
| ISO | Manufactured in ISO-9001facility | |
| Safety | IEC62368-1:2020+A11:2020 | |
| EMI | FCC Part 15B Class A, IEC 61000-3-2 | |
| EMS | IEC61000-4-2 ESD: Contact:±8kV, Air:±15kV<br>IEC61000-4-5 Surge: Power: ±6kV; RJ45:±4kV/±6kV(PoE) | |
| Shock | IEC 60068-2-27 | |
| Free Fall | IEC 60068-2-32 | |
| Vibration | IEC 60068-2-6 | |
| Environmental | RoHS 2011/65/EU Annex II(EU) | |

# Product Specifications



## Dimension (Unit: mm)




## Ordering Information

| Available Model | Description | Input Voltage | Operating Temp. |
|---|---|---|---|
| FR-7M3016P | Industrial L2+ Managed 16-port 10/100/1000Base-TX (PoE+) Ethernet Switch with Redundant DC Power Inputs | Dual 48-56VDC | -40 to +75°C |
| FR-7M3016BT | Industrial L2+ Managed 16-port 10/100/1000Base-TX (PoE++) Ethernet Switch with Redundant DC Power Inputs | Dual 52-56VDC | -40 to +75°C |

| Optional Accessories (to be purchased separately) | |
|---|---|
| Power Supply | Please select your power supply on our Power Supplies & Adapters page for details. |
| SFP Optical Transceiver | Please select your SFP on our SFP Modules page for details. |

| Package Contents | |
|---|---|
| Device | 1 x Industrial Ethernet Switch |
| Cable | 1 x DB9 female to RJ45 |
| Installation Kit | 1 x DIN-Rail Clip |

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