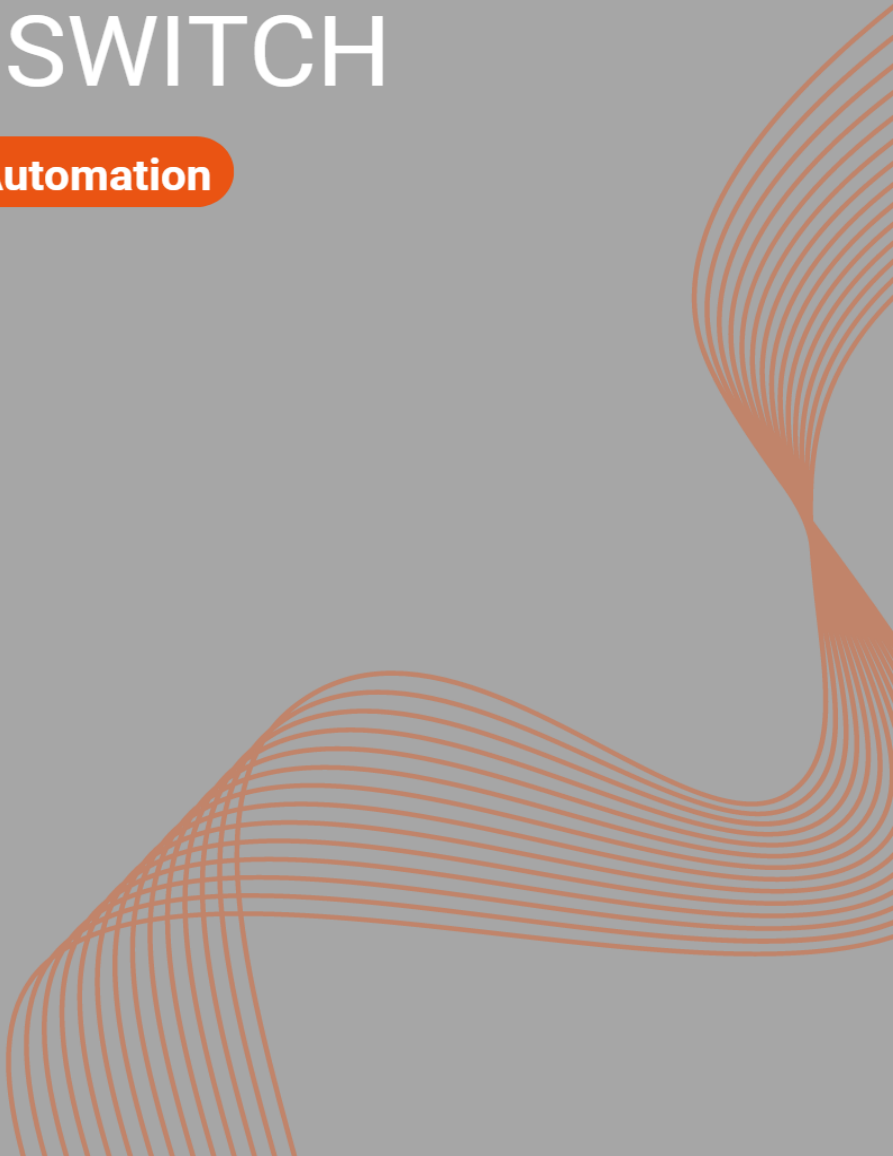


FIBERROAD

UNMANAGED INDUSTRIAL ETHERNET SWITCH

Designed For Industrial Automation

Product Data Sheet



Unmanaged Industrial Ethernet Switch

Fiberroad FR-7A Series Industrial Ethernet Switch is a cutting-edge device specifically designed for industrial automation. The switch offers top-of-the-line features including one-click broadcast storm protection, which ensures that networks remain safe and stable during high-intensity transmission periods. With 10/100Mbps Ethernet ports, the Fiberroad FR-7A series can be used to connect multiple devices within an industrial setting. Additionally, its compact design enables it to fit into tight spaces while guaranteeing optimal performance and functionality. This switch is built with robust housing material that makes it suitable for use in harsh environments such as factories or outdoor installations; It also supports a wide range of operating temperatures from -40°C to +75°C making it perfect for any industry where environmental factors play a pivotal role in operations. Overall, this Industrial Ethernet Switch by Fiberroad sets the standard when it comes to reliability, durability, and efficiency in industrial automation settings.

Main Features

- ❖ DIP Switch supports Broadcast Storm Protection
- ❖ Dual redundant power DC9-72V inputs with industrial surge, spike and reverse power protection.
- ❖ Auto crossover (MDI/MDIX) automatically supports either straight-through or crossover which greatly reduces cable installation errors.
- ❖ Operating temperature -40 to 75°C
- ❖ Support power input polarity protection; no worries about the reverse connection
- ❖ All-Aluminium shell, fanless design
- ❖ Free fall, shock-proof and vibration-proof for industries
- ❖ Plug and play, no software configuration.



In today's world of Industrial Automation, uninterrupted communication between various devices and systems is crucial for the smooth functioning of operations. This is where an Industrial Ethernet Switch plays a vital role in keeping all the interconnected devices in sync. It provides high-speed data transfer rates, ensures reliable connectivity, and manages traffic flow efficiently. However, with multiple devices connected to one network comes the risk of Broadcast Storms - a phenomenon that occurs when there are too many broadcast messages sent simultaneously on the network, causing congestion and disrupting normal operations. That's why Broadcast Storm Protection is equally important as it helps prevent such situations by limiting broadcast traffic and isolating affected areas while ensuring continued communication within the rest of the system without any interruption or delay. Hence, having both an Industrial Ethernet Switch and Broadcast Storm Protection feature is essential for maintaining optimal performance levels in Industrial Automation environments.

Product Specifications

| Ethernet Interface | | | |
|-------------------------------|---|---------------------------|------------------------|
| | FR-7A1005 | FR-7A1008 | FR-7A1016 |
| Ports | 5x10/100Base-T Port(RJ45) | 8x10/100Base-T Port(RJ45) | 16x10/100-T Port(RJ45) |
| Port Mode(Tx) | Auto Negotiation Full/Half Duplex Mode Auto MDI/MDI-X Connection | | |
| Standards | IEEE 802.3 for 10BaseT IEEE 802.3u for Fast Ethernet | | |
| Packet Buffer Size | 512K | 512K | 1M |
| Maximum Packet Length | 9K | 10K | 10K |
| MAC Address Table | 1K | 1K | 2K |
| Transmission Mode | Store and Forward (full/half duplex mode) | | |
| Switch Fabric | 1G | 1.6G | 3.2Gbps(non-blocking) |
| Throughput(packet per second) | 0.74Mpps | 1.19Mpps | 2.38Mpps |
| Switching Latency | ≤7us | ≤7us | ≤7us |
| Network Cables | 10BASE-T: 2-pair UTP Cat. 3, 4, 5, up to 100 meters 100BASE-TX: 2-pair UTP Cat. 5, 5e up to 100 meters | | |

| LED | State | Description |
|----------------------|----------|--------------------------------|
| PWR (P1&P2) | ON | Power is being supplied |
| | OFF | Power is not being Supplied. |
| Link/ACT (1-8/16) | ON | Port connection is active |
| | Blinking | Data transmitted |
| | OFF | Port connection is not active. |
| RUN | Blinking | The system is running well |
| | OFF | The system is running unwell |

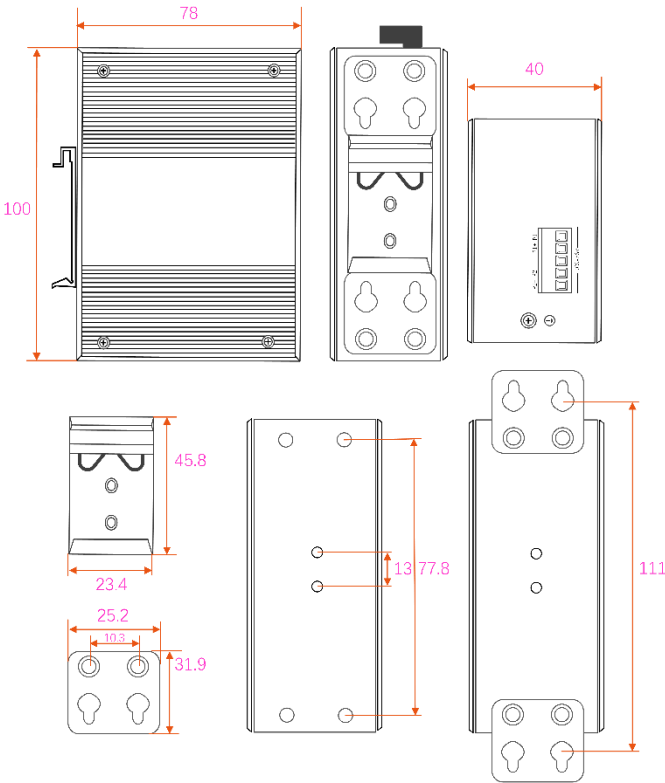
| Physical Characteristics | | |
|--------------------------|---------------------------------|----------------------------------|
| Model | FA-7A1005/7A1008 | FR-7A1016 |
| Housing | Aluminum case | |
| IP Rating | IP40 | |
| Dimensions | 100mm x 78mm x 40mm (L x W x H) | 138mm x 108mm x 49mm (L x W x H) |
| Installation | DIN Rail/Wall Mount | |
| Weight | 300g | 680g |

| Environmental | |
|-----------------------|---|
| Operating Temperature | -40°C~75°C (-40 to 167 °F) |
| Operating Humidity | 5%~95% (non-condensing) |
| Storage Temperature | -40°C~85°C (-40 to 185 °F) |
| MTBF | > 500,000 hours @ Telcordia SR-332 Standard |
| Heat Dissipation | 10 BTU/h |
| Cooling | Passive Cooling, Fanless Design |
| Noise Level | 0 dBA |

Product Specifications

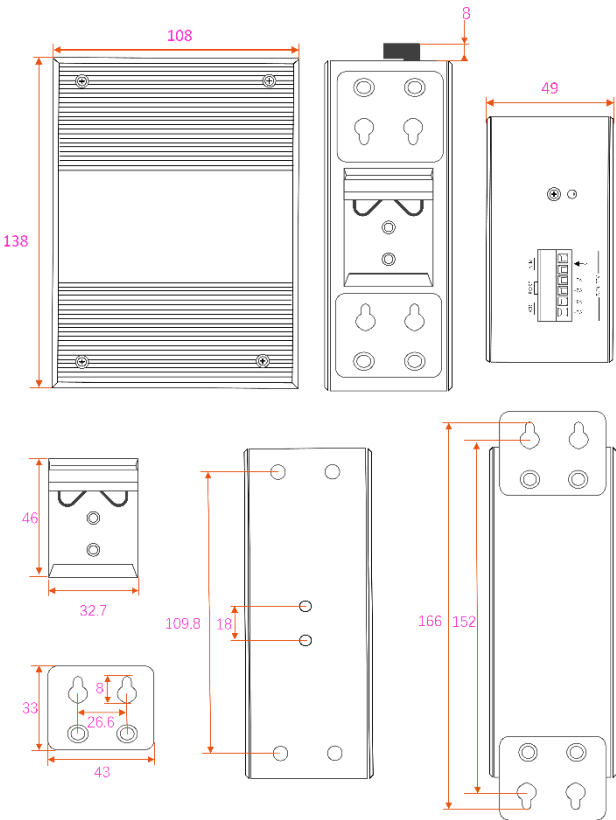
| Power Supply | | | |
|---------------------------------------|---|-------------|-----------|
| Model | FR-7A1005 | FR-7A1008 | FR-7A1016 |
| Input Voltage | 9-72VDC,Redundant dual inputs | | |
| Power Consumption | <2W | <3W | <5W |
| Power Inputs | 2 | | |
| Connector | 1 removable 6-contact terminal blocks Pin 1/2 for Power 1, Pin 3/4 for Power 2, Pin 5/6 for fault alarm | | |
| Protection | Overload Current Protection, Reverse Polarity Protection | | |
| DIP Switch | | | |
| Name | Status | Description | |
| #1 | Broadcast Storm Protection | OFF | Disable |
| | | ON | Enable |
| #2 | Function Reservation | \ | \ |
| Certification Standard | | | |
| EMC/EMI/EMS | FCC Part15 Class A CE-EMC/LVD RoHS EN61000-4-2 (ESD):LEVEL 4 IEC 6100-4-2 (EFT):LEVEL 4 IEC 6100-4-2 (Surge): LEVEL 4 IEC 6100-4-2 (CS): LEVEL 3 IEC 61000-4-2(PFMP) : LEVEL 5 EN61000-4-3 (RS):LEVEL 4 | | |
| Shock | IEC60068-2-27 | | |
| Vibration | IEC60068-2-6 | | |
| Freefall | IEC60068-2-31 | | |
| Safety | EN 60950-1, UL 60950-1, CSA C22.2 No.60950-1, UL 508 | | |
| Package Contents | | | |
| Device | 1x Industrial Ethernet Switch | | |
| Installation Kit | 1x DIN-Rail Clip 2x Wall-Mount Kits | | |
| Documentation | 1 x Quick installation guide 1 x Warranty card 1x Product notice | | |
| Accessories(Sold Separately) | | | |
| Power Supply | | | |
| FR-I-10-12 | DIN-rail 12VDC power supply with 10W/0.84A, 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature | | |
| FR-I-20-24 | DIN-rail 24VDC power supply with 20W/1A, 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature | | |
| Armored Fiber Patch Cable / LAN Cable | | | |
| FRPC-A-LC | Armored LSZH LC UPC to LC UPC Duplex OS2 single mode 7.0mm for Ourdoor Application , 1-50m | | |
| FRLC-A-CAT6 | Armored Cat6 Snagless shielded(SFTP) Ethernet Network Patch Cable, 26AWG, 1000Base-T, 0.5m – 3m | | |

Dimensions **Unit: mm**



Model: FR-7A1005/FR-7A1008

Model: FR-7A1016



Precautions

To avoid damage to the equipment and personal injury caused by improper use, please observe the following precautions:

- ❖ Keep the power off during installation, wear an anti-static wrist, and ensure that the anti-static wrist is in good contact with the skin to avoid potential safety hazards.
- ❖ The switch can work normally under the correct power supply. Please confirm that the power supply voltage matches the voltage indicated by the switch.
- ❖ Before powering on the switch, please make sure that the power circuit is not overloaded, so as not to affect the normal operation of the switch and even cause unnecessary damage.
- ❖ To avoid the risk of electric shock, do not open the case while the switch is working, even if it is not charged, do not open it yourself.
- ❖ Before cleaning the switch, pull out the power plug of the switch. Do not wipe with a wet cloth. Do not use liquid to clean it.
- ❖ The equipment installed in the rack is generally from bottom to top to avoid overload installation.
- ❖ Avoid placing other heavy objects on the surface of the switch to avoid accidents.

Order Information

| Model Number | 10/100/Base-T(X), RJ45 | Input Voltage | Operating Temp. |
|--------------|------------------------|---------------|-----------------|
| FR-7A1005 | 5 | DC9-72V | -40 to +75°C |
| FR-7A1008 | 8 | DC9-72V | -40 to +75°C |
| FR-7A1016 | 16 | DC9-72V | -40 to +75°C |

The information in this document is subject to change without notice. Fiberroad has made all effects to ensure the accuracy of the information, but all information in this document does not constitute any kind of warranty. Visit our website for the most up-to-date product information

For more information

For more information about Fiberroad Smart Industrial Ethernet series products, Visit <https://www.fiberroad.com> or contact your local account representative.