



# FR-6R3204

# SMART INDUSTRIAL ETHERNET SWITCH LITE

Product Data Sheet



# FR-6R3204

FR-6R3204 is Smart Industrial Ethernet Switch independently developed by Fiberroad for industrial networking applications. We define it as the LITE model, wholly designed for small businesses, extremely cost-effective. This product adopts industry-leading technical standards and can provide stable and reliable Ethernet transmission with high quality.

## Main Features

- 4x10/100/1000Base-TX RJ45 ports, 2x100/1000Base-FX Fast SFP ports
- DIP Switch supports RSTP/VLAN/SPEED.
- Support 9K bytes giant frame, compatible with various extension protocol
- Support IEEE802.3az energy-efficient Ethernet technology
- Electric 4KV surge protection, easy to use in an outdoor environment
- Complete status indicator, working state at a glance
- Power input polarity protection design
- Aluminum case, no fan design
- Installation method: DIN Rail /Wall mounting



It offers and realizes Ethernet data exchange, convergence and long distance optical transmission with efficient bandwidth and reliable fiber optic network solutions for users. The industrial switch complies with various characteristics such as no fan, low power consumption, high reliability and stability, and easy to maintain.

Industrial Ethernet Switch adopt mature technology and open network standards, adapt to low temperature and high temperature, strong anti-electromagnetic interference, anti-salt fog, anti-vibration and anti-shake, equipped with redundant dual power supply (AC/DC), which can offer redundant mechanisms for critical applications that need always-on connections. It can also operate either at standard operating temperature range -40 to 85°C. Industrial switches support standard 19" rack mounts with IP40 protection and are perfect choices for harsh environments.

# Product Specifications

| Ethernet Interface    |                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ports                 | 4x10/100/1000Base-TX RJ45 ports, 2x100/1000Base-FX Fast SFP ports                                                                                                                                                                                                                                                                               |
| Ports Mode(Tx)        | Auto Negotiation Speed<br>Full/Half Duplex Mode<br>Auto MDI/MDI-X Connection                                                                                                                                                                                                                                                                    |
| Standards             | IEEE 802.3 for 10BaseT<br>IEEE 802.3u for 100BaseT(X) and 100BaseFX<br>IEEE 802.3ab for 1000BaseT(X)<br>IEEE 802.3z for 1000BaseSX/LX/LHX/ZX<br>IEEE 802.3x for flow control<br>IEEE 802.1D-2004 for Spanning Tree Protocol<br>IEEE 802.1w for Rapid Spanning Tree Protocol<br>IEEE 802.1p for Class of Service<br>IEEE 802.1Q for VLAN Tagging |
| Packet Buffer Size    | 2M                                                                                                                                                                                                                                                                                                                                              |
| Maximum Packet Length | Up to 16K                                                                                                                                                                                                                                                                                                                                       |
| MAC Address Table     | 4K                                                                                                                                                                                                                                                                                                                                              |
| Transmission Mode     | Store and Forward (full/half duplex mode)                                                                                                                                                                                                                                                                                                       |
| Exchange Property     | Delay time: < 7μs<br>Backplane bandwidth: 20Gbps                                                                                                                                                                                                                                                                                                |
| IGMP Group            | 256                                                                                                                                                                                                                                                                                                                                             |
| VLAN ID Range         | VID 1 to 4094                                                                                                                                                                                                                                                                                                                                   |

| Transmission Distance           |                                        |
|---------------------------------|----------------------------------------|
| SFP Port                        | Depends on optical module              |
| RJ45 Port Transmission Distance | 100m (using standard CAT5/CAT5e cable) |
| Power Information               |                                        |
| Supply Current                  | 1.0A/48VDC                             |
| Working Voltage                 | 9-56VDC                                |
| Overload Protection             | Yes                                    |
| Power Reverse                   | Support                                |
| Power Consumption               | Full load<10W                          |

| Warranty                 |                                              |
|--------------------------|----------------------------------------------|
| MTBF                     | 500,000 hours                                |
| Defects Liability Period | 5 years warranty, lifetime technical support |

| DIP Switch |                                  |
|------------|----------------------------------|
| #1         | RSTP ON/OFF                      |
| #2         | VLAN ON/OFF                      |
| #3         | SFP port fixed speed, ON as 100M |

# Product Specifications

| Ethernet Software Features |                                                     |
|----------------------------|-----------------------------------------------------|
| Redundant Network          | Support STP/RSTP                                    |
| Multicast Support          | Support IGMP Snooping V1/V2/V3                      |
| VLAN                       | Support IEEE 802.1Q 4K VLAN                         |
| QOS                        | Support Port, 1Q, ACL, DSCP, CVLAN, SVLAN, DA, SA   |
| Diagnostic Maintenance     | Support port mirroring, Ping                        |
| Management Function        | WEB                                                 |
| Security                   | Broadcast/Multicast Storm Protection, MAC filtering |

| Physical Characteristics |                            |
|--------------------------|----------------------------|
| Housing                  | Aluminum case              |
| IP Rating                | IP40                       |
| Dimensions               | 120mm*90mm*35mm            |
| Installation Mode        | DIN Rail and Wall Mounting |
| Weight                   | 350g                       |

| Working Environment   |                            |
|-----------------------|----------------------------|
| Operating Temperature | -40°C~75°C (-40 to 167 °F) |
| Operating Humidity    | 5%~90% (non-condensing)    |
| Storage Temperature   | -40°C~85°C (-40 to 185 °F) |

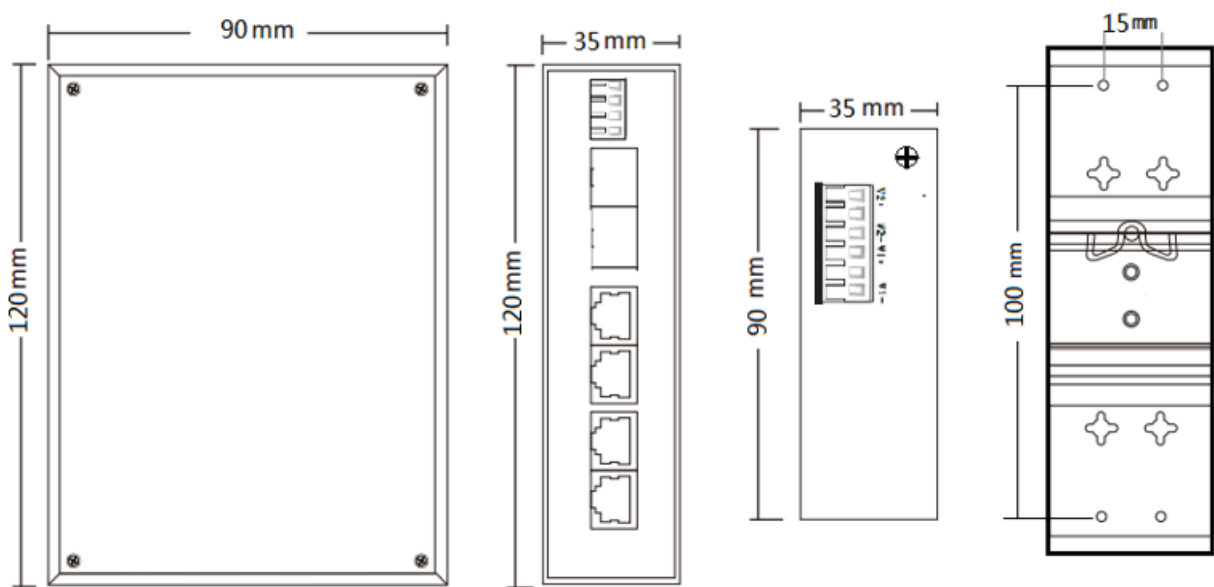
| LED Indicator |                                                 |
|---------------|-------------------------------------------------|
| Power         | Connect-always                                  |
| RJ45          | Link/Act: connect-always; data exchange-twinkle |
| Fiber         | Link/Act: connect-always; data exchange-twinkle |

| Certification Standard |                                                                                                                                                                                                                                 |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMC/EMI/EMS            | FCC Part15 Class A<br>CE-EMC/LVD<br>RoHS<br>EN61000-4-2 (ESD):LEVEL 4<br>IEC 6100-4-2 (EFT):LEVEL 4<br>IEC 6100-4-2 (Surge): LEVEL 4<br>IEC 6100-4-2 (CS): LEVEL 3<br>IEC 61000-4-2(PFMP) : LEVEL 5<br>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                                                                                                                                                                            |

# Product Specifications

| Package Contents |                                                                                                                                                                    |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Device           | 1x Industrial Ethernet Switch                                                                                                                                      |
| Installation Kit | 2 x Caps, plastic, for SFP Slots<br>Or 2 x Caps, plastic, for SC fiber port<br>Or 2 x Caps, plastic, for ST fiber port<br>2x Wall-Mount Kits<br>1x DIN Rail Buckle |
| Documentation    | 1 x Quick installation guide<br>1 x Warranty card<br>1x Product notice                                                                                             |

## Dimensions      Unit: mm



## Accessories(Sold Separately)

| Power Supply |                                                                                                                               |
|--------------|-------------------------------------------------------------------------------------------------------------------------------|
| FR-I-40-24   | DIN-rail 24 VDC power supply with 40W/1.7A, 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature         |
| FR-I-60-24   | DIN-rail 24 VDC power supply with 60W/2.5A, 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature         |
| FR-45-24     | 45W/2A DIN-Rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 50°C operating temperature   |
| FR-75-24     | 75W/3.2A DIN-Rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 50°C operating temperature |

| SFP Optical Transceiver |                                                                                                      |
|-------------------------|------------------------------------------------------------------------------------------------------|
| FRSX-1L311C-I           | 1.25Gb/s 1310nm 10km SFP, wide operation temperature range of -40°C-85°C (-40°F - 185°F)             |
| FRSX-1L341C-I           | 1.25Gb/s 1310nm 40km SFP, wide operation temperature range of -40°C-85°C (-40°F - 185°F)             |
| FRSX-1L5X1C-I           | 1.25Gb/s 1550nm 80/100km SFP, wide operation temperature range of -40°C-85°C (-40°F - 185°F)         |
| FRSX-1L3523/5323C-I     | 1.25Gb/s 1310nm/1550nm 20km BiDi SFP, wide operation temperature range of -40°C-85°C (-40°F - 185°F) |

| Armored Fiber Patch Cable / LAN Cable |                                                                                                 |
|---------------------------------------|-------------------------------------------------------------------------------------------------|
| FRPC-A-LC                             | Armored LSZH LC UPC to LC UPC Duplex OS2 single mode 7.0mm for Outdoor Application , 1-50m      |
| FRLC-A-CAT6                           | Armored Cat6 Snagless shielded(SFTP) Ethernet Network Patch Cable, 26AWG, 1000Base-T, 0.5m – 3m |

## 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

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|           |                                                                                             |
|-----------|---------------------------------------------------------------------------------------------|
| FR-6R3204 | 4x10/100/1000Base-TX RJ45 ports, 2x100/1000Base-FX SFP ports with DIP Switch, DC9~56V Input |
|-----------|---------------------------------------------------------------------------------------------|

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\*Fiber port can add SFP module. RJ45 port with PoE optional.

The information in this document is subject to change without notice. Fiberroad Technology., Ltd 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.