RAM®-6021
Sixnet® Networking Series

red lion®

▶▶▶ Secure Industrial Router

Red Lion's RAM-6021 industrial routers provide secure network communication between local and wide area networks.

With a rugged design and flexible platform, the routers provide the ability to remotely connect, monitor and control assets across a variety of industrial applications. The RAM-6021's web based event engine can be customized to trigger I/O or email alerts, to quickly notify personnel of critical events based on operational data. Add in robust security features, which include a stateful firewall, NAT translations and VPN connections, and the RAM-6021 delivers a compact all-in-one solution that seamlessly connects to existing Ethernet infrastructures, including networks with Modbus and DNP3 enabled devices.

APPLICATIONS

> Factory Automation
> Oil & Gas
> Water/Wastewater

PRODUCT HIGHLIGHTS

> Secure network routing and communication
> LAN-to-LAN or LAN-to-WAN connectivity
> Intrusion protection through stateful firewall
> NAT support for 1-to-1 and 1-to-many translations
> 25 VPN connections for secure remote access
> Built-in Modbus and DNP3 gateways
> Event engine to trigger I/O or send email alerts
> Rugged industrial design in a compact package

FEATURES & BENEFITS

> Simple network setup
> DHCP server/DHCP relay
> Built-in security and routing protects against unwanted intrusion
  • IPsec and SSL VPN tunnels
  • Port forwarding
  • Stateful firewall
  • Packet filtering
  • Access control list (ACL)
> Flexible all-in-one platform reduces complexity
  • Remote TCP/IP based capabilities
  • Integrated switching and routing
  • Serial-to-IP conversion
  • Access IP and serial devices simultaneously
  • SNMP v1, v2, v3

> Rugged, compact design deploys easily in space-constrained locations
  • -40 to 70 °C operating temperature
  • DIN-rail mounting
> Remote monitoring and control eliminates site visits
  • Instant access to SCADA data
  • Modbus and DNP3 (serial and IP) protocol support
  • Simple integration for complex configurations
> Web-based management simplifies deployment and configuration
  • Remote diagnostics and troubleshooting
  • Key metric reporting
  • Built-in data capture for enhanced troubleshooting
  • RAMQTT for cloud connectivity
  • Syslog

industrial networking

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TUNNELING
IPsec and SSL

IP
NAT, port forwarding, dynamic DNS, DHCP
Stateful inspection firewall, IP transparency
Routing Protocols
    OSPF, BGP, RIP, VRRP
Encapsulation Protocols
    GRE

PROTOCOL GATEWAY
Modbus RTU/TCP/ASCII/RTU
DNP3 - slave

ETHERNET INTERFACE (10/100 AUTO-SENSING)
Five (5) RJ45 (port 5 - WAN/LAN capability)

DATA THROUGHPUT
LAN ports: 100 Mbps
WAN port: 45 Mbps

SERIAL INTERFACE
One (1) RS-232 Serial DB9 115200 bps
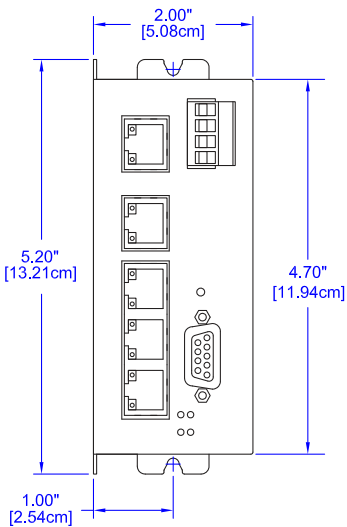
USB INTERFACE
One (1) USB 2.0 mini configuration port

MECHANICAL
Dimensions: steel 120 x 96 x 51 mm (4.7" x 3.77" x 2.0")
Weight: 544g (1.2 lbs)

REDUNDANT POWER INPUT
4-pin screw terminal
Side-mounted 2.5mm barrel connector
    8-30 VDC (12 VDC nominal)
    Input current (max): 150 mA

ENVIRONMENTAL
Operating temperature: -40 to 70 °C
Shock: IEC60068-2-27
Vibration: IEC60068-2-6
Humidity: 5 to 95% non-condensing

CERTIFICATION
EMI/EMC:
    Emissions: FCC, Part 15 and Industry Canada, ICES-003; Class A; EN55022, IEC61000-6-4
    Immunity: IEC61000-6-2 (EN61000-4-2,3,4,5,6,8)
Hazardous Locations: Class I, Div. 2, Groups A, B, C, D, ISA 12.12.01
Electrical safety: UL508/CSA22.2/14 (CUL); IEC61010-1
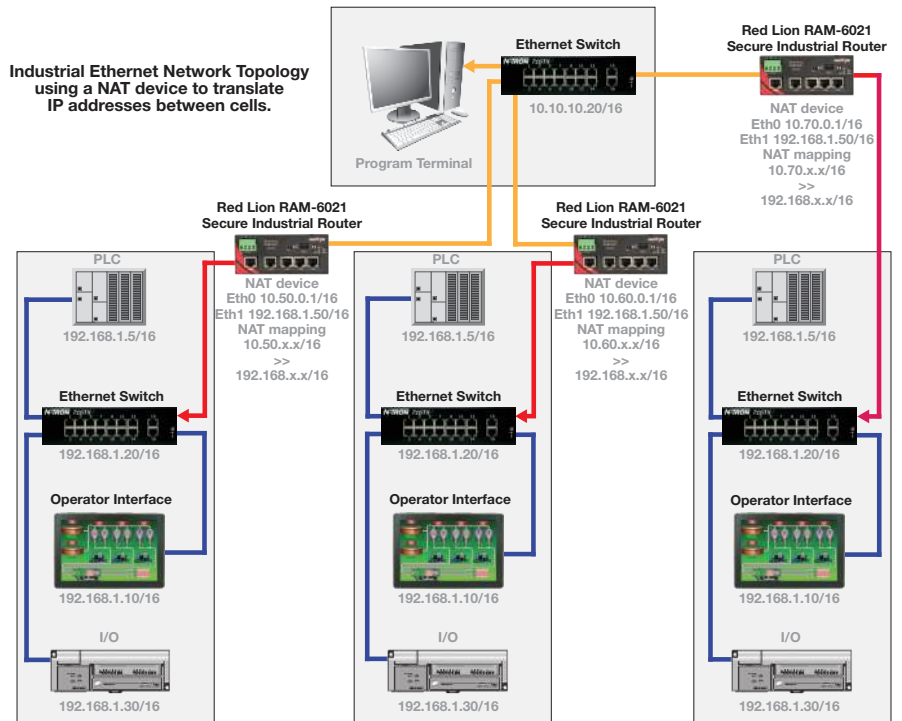RoHS compliant

INPUTS & OUTPUTS
One (1) digital output
One (1) digital/analog input (one active)

WARRANTY
3 years on design and manufacturing defects

ORDERING GUIDE

PART NUMBER	DESCRIPTION
RAM-6021	Secure router with 5 ethernet ports, 1 serial port, Modbus/DNP3 gateway
ET-PS-024-02	DIN rail 2 amp power supply
FPSALACADAPTER2	2.5mm barrel power supply

2.00"
[5.08cm]

5.20"
[13.21cm]

4.70"
[11.94cm]

1.00"
[2.54cm]

All specifications are subject to change. Consult the company website for more information.

Industrial Ethernet Network Topology using a NAT device to translate IP addresses between cells.

Ethernet Switch
10.10.10.20/16

Red Lion RAM-6021
Secure Industrial Router

NAT device
Eth0 10.70.0.1/16
Eth1 192.168.1.50/16
NAT mapping
10.70.x.x/16
>>
192.168.x.x/16

Program Terminal

Red Lion RAM-6021
Secure Industrial Router

NAT device
Eth0 10.50.0.1/16
Eth1 192.168.1.50/16
NAT mapping
10.50.x.x/16
>>
192.168.x.x/16

Red Lion RAM-6021
Secure Industrial Router

NAT device
Eth0 10.60.0.1/16
Eth1 192.168.1.50/16
NAT mapping
10.60.x.x/16
>>
192.168.x.x/16

PLC
192.168.1.5/16

Ethernet Switch
192.168.1.20/16

Operator Interface
192.168.1.10/16

I/O
192.168.1.30/16

PLC
192.168.1.5/16

Ethernet Switch
192.168.1.20/16

Operator Interface
192.168.1.10/16

I/O
192.168.1.30/16

PLC
192.168.1.5/16

Ethernet Switch
192.168.1.20/16

Operator Interface
192.168.1.10/16

I/O
192.168.1.30/16

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As the global experts in communication, monitoring and control for industrial automation and networking, Red Lion has been delivering innovative solutions for over forty years. Our automation, Ethernet and cellular M2M technology enables companies worldwide to gain real-time data visibility that drives productivity. Product brands include Red Lion, N-Tron and Sixnet. With headquarters in York, Pennsylvania, the company has offices across the Americas, Asia-Pacific and Europe. Red Lion is part of Spectris plc, the productivity-enhancing instrumentation and controls company. For more information, please visit www.redlion.net.