

# Trio J-Series

License-free Ethernet data radio

JR900 | JR240



## Product at a glance

Schneider Electric brings Wireless Ethernet connectivity to the SCADA engineer's toolkit with the Trio™ J-Series, an innovative pairing of license-free spread-spectrum radio with Ethernet capability.

The Trio J-Series frequency-hopping Ethernet radio sets the standard for industrial Ethernet communications in the license free 900 MHz and 2.4 GHz ISM bands. With maximum range and virtually unlimited system coverage due to its unique LinkXtend™ network bridging and KwikStream™ high speed repeater capabilities, the industrial strength

J-Series is ideally suited for the most demanding Point-to-Multipoint and Point-to-Point wireless SCADA and Telemetry applications. The highly versatile J-Series also offers dual Ethernet ports and remote diagnostics compatibility, as well as SmartPath™, a feature that identifies then rectifies a problem within the network with minimal interruption to the SCADA data flow.

# Trio J-Series

## License-free Ethernet data radio

### Specifications – Trio JR900 | JR240

#### Radio

Frequency Range	902...928 MHz or 2.4...2.48335 GHz, (region-specific versions available)
Frequency Accuracy	±2.5 ppm (900 MHz) ±3.0 ppm (2.4 GHz)
Radio Modes	Half Duplex, pseudo Full Duplex
Configuration	Configuration via embedded HTTP, HTTPS web interface & or Telnet/SSH/Serial console
Selectivity	Better than 50 dB
Spurious Response	Better than 70 dB
Tx Power	<ul style="list-style-type: none"> <li>900 MHz : 0.01...1 W (+30 dBm) 0.5 dB steps configurable with over-temperature and high VSWR protection</li> <li>2.4 GHz : 0.01...500 mW (+27 dBm) 0.5 dB steps configurable with over-temperature protection</li> </ul>
Modulation	T2 Level GFSK

#### Connections

Ethernet Port	2 x RJ45: 10/100 Mbps (auto-MDIX sensing) compliant with IEEE 802.3
Serial Data Ports	1 x RS232 DB9 female connector providing 2 x RS-232 3-wire serial ports (shared connector). 600...115,200 bps asynchronous
Serial Data Port Flow Control	CTS-RTS [Serial Port A only] or 3-wire interface
Antenna	2 x TNC female bulkhead connectors for LinkXtend™ or separate TX/RX antennas
Power	2-pin locking, mating connector supplied
LED Display	Multimode Indicators for Pwr, Tx, Rx, Sync, TxD and RxD data LEDs and LAN LEDs

#### Ethernet

Ethernet Protocols	Ethernet/IP (including UDP, TCP, DHCP, ARP, ICMP, STP, IGMP, SNMP & TFTP)
Ethernet Repeating	Automatic and Self Learning Peer-to-Peer repeating
Ethernet Traffic Filtering	Configurable: No Filtering / Unicast Traffic & ARP Only / Unicast Traffic Only / Specific MAC Address Only
Compression	Ethernet data compression - configurable off, low, medium & high
Terminal Server	Legacy RS-232 serial support via embedded terminal server (UDP/TCP)
MODBUS Gateway	Embedded Modbus/TCP to Modbus/RTU Gateway
DHCP Modes	Auto and Manual
SNMP	SNMP V1/V2c RFC-1213 compliant and Trio J-Series radio diagnostics parameters (including alarm generation via traps)

Specifications continue on the next page

# Trio J-Series

## License-free Ethernet data radio

### Specifications – Trio JR900 | JR240 – cont'd

#### Modem

RF Channel Data Rate	<ul style="list-style-type: none"> <li>• 900 MHz version - 512 kbps, 256 kbps, 128 kbps and 64 kbps</li> <li>• 2.4 GHz version - 256 kbps, 128 kbps and 64 kbps</li> </ul>
Auto Data Rate	900 MHz version only - Mixed 512 kbps and 256 kbps in same network
Bit Error Rate	BER <math>1 \times 10^{-6}</math> for 512 kbps @ -92dBm, 256 kbps @ -102dBm, 128 kbps @ -104 dBm and 64 kbps @ -106 dBm
Operating Modes	Access Point, remote, repeater or network-bridge
Network Types	Point-to-Point, Point-to-Multipoint, Point-to-Multipoint with Repeaters / Store and Forward, Mesh
Channelshare™	Trio's unique supervisory collision avoidance system
SmartPath™	Technology for enhanced redundancy in network configuration (Mesh)
Firmware	Local and over-the-air flash-based firmware

#### Security

Encryption*	256-bit AES
HTML Interface	Password-protected HTTP and HTTPS configuration and management interface
Console Interface	Password-protected Telnet, SSH & serial console interface
Trusted Unit	Optional Trusted Access Point-Trusted Remote operation

#### Diagnostics

Diagnostics Overview	<ul style="list-style-type: none"> <li>• Network Management &amp; Remote Diagnostics with no software installation required</li> <li>• Network-wide operation from any remote terminal</li> <li>• Non intrusive protocol – runs simultaneously with the application</li> <li>• SNMP Access to Radio Diagnostics</li> <li>• Spectrum Analyser and Channel Lockout facilities (Telnet/Text Interface)</li> <li>• Fully compatible with TVIEW+™ Network Management Software</li> <li>• Diagnostics parameters available:             <ul style="list-style-type: none"> <li>• Transmitter Power</li> <li>• Received Signal Strength</li> <li>• DC Supply Voltage</li> <li>• Received Frequency Error</li> <li>• Radio Temperature</li> <li>• VSWR (900 MHz version only)</li> </ul> </li> </ul>
----------------------	--

#### General

Operating Temperature Range	-40...+70 °C (-40...+158 °F)
Power Supply	13.8 Vdc nominal (10...30 Vdc)
Transmit Current	<ul style="list-style-type: none"> <li>• 900 MHz : 800 mA nominal @ 1W</li> <li>• 2.4 GHz : 800 mA nominal @ 0.5W</li> </ul>
Receive Current	<150 mA nominal @ 13.8 Vdc
Housing & Dimensions	Rugged die-cast, 100 mm X 34 mm X 165 mm (4.0 in. x 1.4 in. x 6.5 in.)

Specifications continue on the next page

# Trio J-Series

License-free Ethernet data radio

## Specifications – Trio JR900 | JR240 – cont'd

### General

Mounting	Integrated Mounting Holes or DIN Rail mounting (optional)
Weight	0.5 kg (1.1 lbs.)
Warranty	3 years on parts and labor

### Approvals and Certifications

Europe (ETSI)	ETSI EN60950, EN50392 EN300328 EN301489 (2.4 GHz only)
FCC	FCC PART 15
Industry Canada	IC RSS210
Australia	ACMA AS/NZS 4268
Hazardous Locations	<ul style="list-style-type: none"> <li>• 900 MHz : CSA Class I, Division II, Groups (A,B,C,D) for Hazardous Locations ANSI/UL equivalent)</li> <li>• 2.4 GHz : ATEX II 3G Ex nA IIC T4</li> </ul>

\* Export restrictions may apply. Contact your local representative for more details.

**Note:** Not all product features are available in every mode of operation.

**Disclaimer:** Schneider Electric reserves the right to change product specifications. For more information visit [www.se.com](http://www.se.com).

# Trio J-Series

License-free Ethernet data radio

## Model Code

TBURJRx-aa-bb-bcde represents a typical part number

Model	Model Type
TBURJ	J-Series

Code	Select: Unit Type
R	Base/Remote/Repeater Station with full enclosure

Code	Select: Generic Frequency Band
900	900 MHz
240	2.4 GHz

Code	Select: Frequency
	900 MHz Frequency Band
00	License-free band 902...928 MHz (FCC/IC - Requires Encryption for Canada and USA)
01	License-free band 915...928 MHz (Requires Encryption for Australia)
05	License-free band 921...928 MHz (New Zealand)
06	License-free band 902...907.5 MHz and 915...928 MHz (Brazil)
	<b>2.4 GHz Frequency Band</b>
00	License-free band 2.4 GHz, 500 mW (Requires Encryption for North America & Australia)
01	License-free band 2.4 GHz, ETSI/100 mW, ATEX (Europe)

Note: Other frequency bands available upon request.

Code	Select: RF Channel Data Rate & Bandwidth (Internal Modem)
002	900 MHz: 64...512 kbps, 2.4 GHz: 64...256 kbps

Code	Select: Encryption
D	No encryption
E	Encryption*

Model Code continues on the next page

# Trio J-Series

License-free Ethernet data radio

## Model Code cont'd

TBURJRxxx-aabbbcdde represents a typical part number

Code	Select: Approvals
H	Hazardous Environment CSA Class I Div 2
A	ATEX

Code	Future Option
0	None

Example: TBURJR900-00002EH0 specifies: Trio JR900 Remote Ethernet Station, 900 MHz band with a specific frequency range of 902...928MHz, a 64...512 kbps modem, Encryption and Class1 Div2 rating.

Communications Standards:

FCC – Federal Communications Commission (USA)

IC – Industry Canada

ETSI – European Telecommunication Standards Institute

ACMA – Australian Communications & Media Authority

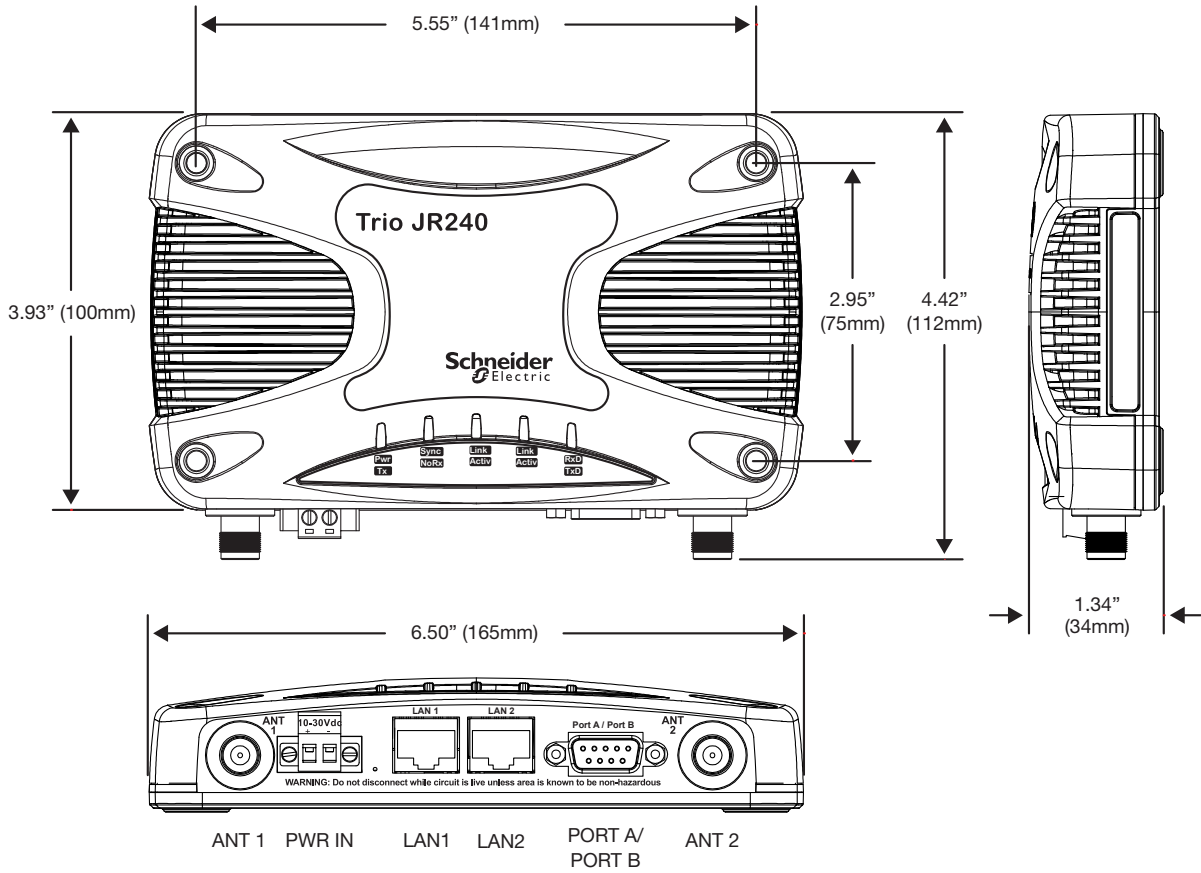
Contact your local sales office for accessories

\* Export restrictions may apply. Contact factory for details.

# Trio J-Series

License-free Ethernet data radio

Dimensions – JR900 | JR240



Footnote: This product is RoHS-compliant. Accessories sold separately.

Disclaimer: Not all product features are available in every mode of operation. Schneider Electric reserves the right to change product specifications. For more information visit [www.se.com](http://www.se.com).

**Schneider Electric**  
 Process Automation SCADA & Telemetry  
 415 Legget Drive, Suite 101, Kanata, Ontario K2K 3R1 Canada  
 Direct Worldwide: +1 (613) 591-1943  
 Email: [telemetrysolutions@se.com](mailto:telemetrysolutions@se.com)  
 Fax: +1 (613) 591-1022  
 Toll Free within North America: +1 (888) 267-2232  
[www.se.com](http://www.se.com)

Life Is On



Part Number TBULM08003-15 v15