

Trio J-Series

License-free Ethernet data radio

JR900 | JR240



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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 900MHz and 2.4GHz 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.

Product Data Sheet Trio JR900 | JR240

Specifications

> Trio JR900 | JR240

Radio

Frequency Range	902-928MHz or 2.4-2.48335GHz, (region-specific versions available)
Frequency Accuracy	±2.5ppm (900MHz) ±3.0ppm (2.4GHz)
Radio Modes	Half Duplex, Pseudo Full Duplex
Configuration	Configuration via embedded HTTP, HTTPS web interface & or Telnet/SSH/Serial console
Selectivity	Better than 50dB
Spurious Response	Better than 70dB
Tx Power	<ul style="list-style-type: none"> 900MHz : 0.01 - 1W (+30dBm) 0.5dB steps configurable with over-temperature and high VSWR protection 2.4GHz : 0.01 - 500mW (+27dBm) 0.5dB steps configurable with over-temperature protection.
Modulation	2 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 & TFPT)
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

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Modem

RF Channel Data Rate	900MHz version - 512kbps / 256k / 128k and 64k, 2.4GHz version - 256kbps / 128k and 64k
Auto Data Rate	900MHz version only - Mixed 512kbps and 256kbps in same network
Bit Error Rate	BER <1x10 ⁻⁶ for 512k @ -92dBm, 256k @ -102dBm, 128k @ -104dBm and 64k @ -106dBm
Operating Modes	Access Point, remote, repeater or network-bridge
Network Types	Point-to-Point, Point-to-Multipoint, Point-to-Multipoint with Repeaters / Store n' 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"> • Network Management & Remote Diagnostics with no software installation required • Network-wide operation from any remote terminal • Non intrusive protocol – runs simultaneously with the application • SNMP Access to Radio Diagnostics • Spectrum Analyser and Channel Lockout facilities (Telnet/Text Interface) • Fully compatible with TView+ Network Management Software • Diagnostics parameters available <ul style="list-style-type: none"> • Transmitter Power • Received Signal Strength • DC Supply Voltage • Received Frequency Error • Radio Temperature • VSWR (900MHz version only)
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General

Operating Temperature Range	-40 to + 70°C (-40 to +158°F)
Power Supply	13.8Vdc nominal (10-30Vdc)
Transmit Current	<ul style="list-style-type: none"> • 900MHz : 800mA nominal @ 1W • 2.4GHz : 800mA nominal @ 0.5W
Receive Current	<150mA nominal @ 13.8Vdc
Housing & Dimensions	Rugged die-cast, 100 x 34 x 165mm, (4.0 x 1.4 x 6.5in.)
Mounting	Integrated Mounting Holes or DIN Rail mounting (optional)
Weight	0.5kg (1.1lbs.)
Warranty	3 years on parts and labor

Approvals and Certifications

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

* 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.schneider-electric.com.

Product Data Sheet Trio J-Series Model Code

	TBURJRxxx-aabbcode represents the part number matrix
Model	Model Type
TBURJ	J-Series
Code	Select: Unit Type
R	Base/Remote/Repeater Station with full enclosure
Code	Select: Generic Frequency Band
900	900MHz
240	2.4GHz
Code	Select: Frequency
	900MHz Frequency Band
00	License-free band 902 to 928MHz (FCC/IC - Requires Encryption for Canada and USA)
01	License-free band 915 to 928MHz (Requires Encryption for Australia)
05	License-free band 921 to 928MHz (New Zealand)
06	License-free band 902 to 907.5MHz and 915 to 928MHz (Brazil)
	2.4GHz Frequency Band
00	License-free band 2.4GHz, 500mW (Requires Encryption for North America & Australia)
01	License-free band 2.4GHz, ETSI/100mW, ATEX (Europe)
Note: Other frequency bands available upon request.	
Code	Select: RF Channel Data Rate & Bandwidth (Internal Modem)
002	900MHz : 64kbps to 512kbps , 2.4GHz : 64kbps to 256kbps
Code	Select: Encryption
D	No Encryption
E	Encryption*
Code	Select: Approvals
H	Hazardous Environment CSA Class 1 Div 2
A	ATEX
Code	Future Option
0	None

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

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Dimensions

