VUE-9-IO

Wireless I/O: Long-Range, Scalable, Industrial I/O in 900 MHz

The Intuicom VUE-9-IO Wireless I/O and Gateway is a multiple I/O device that extends communications to equipment, sensors and actuators in local, remote, or difficult to reach locations. Designed with a long range, license-free wireless transceiver, the VUE-9-IO can provide IP-based mesh networking across sprawling environments typical of industrial applications.

Secure: AES encryption, advanced IP filtering, multilevel authentication, user access and change event logging features provide the user with the tools to ensure the highest level of data integrity and protection against malicious attacks.

Flexible: Ethernet native support provides solutions to connectivity challenges today and in the future. The Intuicom VUE-9-IO also provides Ethernet and serial gateway support for industrial protocols including Modbus TCP/RTU and DNP3 I/O.

Reliable: The Intuicom VUE-9-IO utilizes ProMesh™, which operates reliably with the challenges of obstructed paths by using automatic path selection and frequency agility to allow the communications network to adapt to changes easily with redundancy. The Intuicom VUE-9-IO delivers with industry-leading transmit power and industrial ratings including a hazardous area rating of Class 1, Division 2.

Features

- 900 MHz, 1-Watt License-Free Operation
- Hazardous Area Rating of Class 1, Division 2
- Self-healing IP-based Wireless Mesh Networking
- End-Point, Repeater and Gateway Functionality
- Expand I/O with VUE Series Expansion Modules
- 8 digital I/O, User Configurable
- 4 Analog Inputs
- 2 Analog Outputs
- 10/100Base-T IEEE 802.3 Ethernet
- Secure 256-bit AES Encryption
- Modbus RTU and TCP Support
- Over-the-air Network Diagnostics and Configuration

Applications

- Traffic and Transportation Control
- Energy Production
- Water and Wastewater Systems
- Agriculture
- Pipeline Monitoring and Leak Detection
- Electrical Utility Applications
- Automation and Control Solutions

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VUE-9-IO

SPECIFICATIONS

Specification	Description
Transmitter And Receiver	
Frequency	902-928 MHz[1],869.525 MHz, 869.875 MHz[1]
Transmit Power	1 mW (+0 dBm) to 1 W (+30dBm)[2]
	1 mW (+0 dBm) to 500 mW (+27 dBm)[3]
Transmission	Frequency hopping spread spectrum (FHSS)[2]
	Single frequency[3]
Modulation	Frequency shift keying (FSK)
Receiver Sensitivity	–109 dBm @ 19.2 kbps (3% FER)[2]
	–109 dBm @ 14.4 kbps (3% FER)[3]
Channel Spacing	50 x 250kHz[2,4],single 250kHz[3]
Data Rate	19.2–115.2 kbps[1,2],14.4–76.8 kbps[1,3]
Range (LoS)	20 miles (32 km) @ 1W[2,5]
	6 miles (10 km) @ 500 mW
Antenna Connector	1 x female SMA, standard polarity
Input And Output	
Discrete Input	8 digital I/O (1-4 configurable as PI or PO) On-state voltage <2.1 Vdc Wetting current: 5 mA Max. I/P pulse rate–DI 1/2: 50 kHz, DI 3/4: 1 kHz Min. I/P pulse width–DI 1/2: 10µs, PI 3/4: 0.2 ms
Discrete Output	8 digital I/O (1-4 configurable as PI or PO) On-state voltage–DO max.: 30 Vds Wetting current–DO max.: 200 mA Max. O/P pulse rate–PO max. rate: 1 kHz
Analog Input	4 AI (2 differential, 2 single ended) Current range: 0–24 mA Current resolution: 14 bits Accuracy (current): 0.1% Voltage input range: AI 1/2: 0–25V, AI 3/4: 0–5V Voltage resolution: 14 bits Accuracy (Voltage): 0.1%
Analog Output	2 AO (sourcing) Current range: 0–24 mA Current resolution: 13 bits Accuracy (current): 0.1%
Ethernet Port	
Ethernet Port	10/100Base-T, RJ-45 connector, IEEE 802.3
Link Activity	Link, 100Base-T via LED
Serial Port	
RS-232	RJ-45 connector (EIA-562)
RS-485	2-pin terminal block, non-isolated[6]
Data Rate (bps)	1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600, 76800, 115200, 230400 bps
Serial Settings	7/8 data bits, stop/start/parity (configurable)

Specification	Description
Protocols And Configuration	
System Address	ESSID; 1to 31-character text string
Protocols Supported	TCP/IP, UDP, HTTP, FTP, TFTP, TELNET, Modbus, Modbus TCP
User Configuration	All user-configurable parameters via HTTPS
Configurable Parameters	Unit details, I/O mappings and parameters, radio settings (for more information, refer to the user manual) Modbus TCP/ RTU gateway Embedded Modbus master/slave for I/O transfer
Security	Data encryption, 256-bit AES, secure HTTP protocol
LED Indication And Diagnostics	
LED Indication	Power/OK, TX/RX, RS-232, RS-485, digital I/O, analog I/O status
Reported Diagnostics	RSSI measurements (dBm), connectivity information/ statistics, system log file
Network Management	Optional network management system
Compliance	
EMC	FCC Part 15; EN 301 489; AS 3548
RF (Radio)	FCC part 15.247; EN 300 220; AS 4268.2; RFS29 NZ
Hazardous Area	UL/CSA Class I, Division 2; ATEX; IECEx nA IIC
Safety	IEC 60950 (RoHS compliant)
UL®	UL Listed
General	
Size	5.91" x 7.09" x 1.38" (180 mm x 150 mm x 35 mm)
Housing	IP20 rated high-density thermoplastic
Mounting	DIN rail
Terminal Blocks	Removable, max. conductor 12 AWG 0.1 in^2 (2.5 mm^2)
Temperature Rating	–40 to +140 °F (–40 to +60 °C) Max +70 °C/ 158 °F non hazloc
Humidity Rating	0–99% RH noncondensing
Weight	1.1 lb (0.5 kg)
Power supply	
Nominal Supply	10.8–30 Vdc, under/overvoltage protection
Average Current Draw	220 mA at 12V (idle), 110 mA @ 24V (idle)
Transmit Current Draw	500 mA at 12V (1W), 250 mA @ 24V (1W)

SPECIFICATIONS SUBJECT TO CHANGE

1: Country-specific configuration (specified at time of order)
2: 900 MHz ISM band
3: 869 MHz ISM band (Europe)
4: 18 channels New Zealand
5: Typical maximum line-of-sight range
6: Maximum distance 3937' (1200m)

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