

DNP3 Bridge

Overview

The Ingenu DNP3 Bridge enables secure two-way wireless communications for distribution automation applications. Ingenu's bridging solution utilizes innovative RPMA® technology to enable grid-edge communications supporting Volt/VAR control, remote sensing and device management applications.

The DNP3 Bridge provides ethernet and serial connectivity for end-point devices including capacitor bank controllers, voltage regulators, transformers, reclosers, and switches. Distribution automation back-office applications, including SCADA systems, are supported via integrations over DNP3 IP.

The DNP3 Bridge is ideal for applications such as advanced metering infrastructure and application-specific distribution automation sensors including smart transformer monitors and fault circuit indicators.

Features & Benefits

- Secure two-way communications between devices
- Compliant to industry-standard DNP3 connectivity protocols
- Supports industry standard physical interfaces such as RS232, RS422/485, and Ethernet
- Low-power requirement with large voltage input range (10-56V)
- Flexible device and back-office configuration supporting a wide variety of distribution automation applications



Ingenu's RPMA Network Solution

The Ingenu RPMA (Random Phase Multiple Access) Network is the first wireless network designed from the ground-up for low-power, wide-area, machine-to-machine (M2M) communication, and it is what enables the unprecedented reach, capacity, and scalability of the network.

Deepest Coverage: RPMA breaks through the barrier in wireless communications by delivering wide-area coverage with a simple network architecture. The system operates on the globally available 2.4 GHz ISM band and supports a receive sensitivity down to -142 dBm and up to 172 dB of allowable path loss.

Highest Network Capacity: A single RPMA network access point can provide coverage for tens of thousands of end-point devices. To process incoming data from all the end-points, RPMA enhances network capacity up to 40 times over other devices and demodulates incoming signals from thousands of end-points concurrently. The system's capacity is managed dynamically and is not affected by transmission to hard-to-reach end-points.

Lowest Power: The RPMA Network supports low-power operation through its inherent design, such as extremely fast acquisition and re-acquisition, efficient sleep modes and data transfers that dynamically configure to the lowest possible use of power.

Secure by design: The RPMA Network provides security by design with a comprehensive set of security guarantees that are based on NIST-approved algorithms. These mechanisms are tailored for low-bandwidth, power-sensitive networks with a lifetime of more than twenty years.

Technical Specifications

Parameter

Ingenu DNP3 Bridge

Wireless Frequency	2.4GHz ISM
Multiple Access Scheme	Random Phase Multiple Access
Transmit Power	+21 dBm (FCC/IC)
Receive Sensitivity	-135 dBm
Typical Power Consumption	1.2W to 6W depending on configuration
Operating Voltage	10-56 VDC
Ethernet	10/100 Base-T, RJ45 Connector
Serial	1 x RS232; DB9 Male Connector 1 x RS422/485; RJ45 Connector
Protocol	DNP3 - Serial; DNP3-IP
RF Antenna	2 x Reverse Polarity SMA (RF antenna diversity)
LED Indicators	RF, CPU
Reset	Externally available, recessed
Dimensions	138mm W x 105mm D x 26mm H
Weight	350g
Enclosure	IP54 Rated Aluminum Casing
Operating Temperature	-40°C to +85°C
Relative Humidity	5% to 95% (non-condensing)
Vibration & Shock	ETSI EN 300 019-2-4 Class 4M5
Certifications	FCC/IC

About Ingenu

Ingenu is building the first wireless Machine Network, the world's largest IoT network dedicated to connectivity for machines. Operating on universal spectrum, the company's RPMA® technology is a proven standard for connecting Internet of Things (IoT) and machine-to-machine (M2M) devices around the world, with more than 38 networks deployed over seven years. The Machine Network™ will have further reach, global range and longer lasting battery life than any existing network. It is also future-proof – enabling technology solution providers to maximize their product's efficiency and longevity, with unparalleled control and visibility. Information about Ingenu can be found at <http://www.ingenu.com>, or follow us on Twitter @ingenunetworks.

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