

DATASHEET

High Speed Wireless Communication Module PTQ-WA-PWP



The In-Chassis Wireless Communication Module creates a powerful wireless connection between devices located remotely, and the processor. The efficient but powerful PWP protocol allows data exchange in one-to-one or one-to-many wireless scenarios.

ProSoft Wireless Protocol (PWP) offers versatility where a mix of control devices requires cooperation with each other. This involves sharing of information across the applications regardless of device or network type, often at high speed. Wireless bandwidth utilization is optimized by using efficient communication methods. The protocol supports Unicast, Broadcast and Multicast group messaging. The protocol is efficient because each device on the wireless network can produce these types of messages and each device determines which of these messages to consume.

Features	Benefits
Part of your PlantMesh Solution	<ul style="list-style-type: none"> ◆ Producer-consumer protocol enables one to one or one to many data exchange with a PWP enabled wireless product at each device. ◆ Powerful wireless connection between devices located remotely and the PTQ-WA-PWP in a rack.
Efficient and Powerful	<ul style="list-style-type: none"> ◆ A single request for data from a consumer controller can cause data packets to be sent repetitively from the producer. ◆ The set of data variables to be sent periodically can be pre-defined so that the controller starts sending the data as soon as it is initialized. ◆ Data can be sent to the specific node that requested it, or simultaneously to a group of nodes. ◆ Periodic Data Services utilize a low level protocol (UDP/IP) which requires less overhead than fully acknowledged stream oriented protocols.
Secure and Reliable	<ul style="list-style-type: none"> ◆ 2.4 GHz, Direct Sequence Spread Spectrum (DSSS) ◆ Data in PWP packets are in a binary format which augments the security of the wireless communications. ◆ Range of up to 1000 meters, which can be extended with the RLXIB-IHW radios

Configuration

ProSoft Configuration Builder (PCB) provides a PC-based software configuration solution for quick and easy management of module configuration files, as well as viewing communication and network diagnostics.

PCB is not only a powerful solution for new configuration files, but also allows you to import information from previously installed (known working) configurations into new projects.

General Specifications

- Single Slot - Quantum backplane compatible
- The module is recognized as an Options module and has access to PLC memory for data transfer
- Configuration data is stored in non-volatile memory in the ProTalk® module
- Configuration software for Microsoft Windows XP, 2000 and NT is included with the module
- Up to four modules can be placed in a rack
- Local rack - The module must be placed in the same rack as processor
- Compatible with all common Quantum programming packages, including Concept (version 2.6 or higher), Unity Pro (version 2.2 or higher), ProWORX (version 2.20 or later), and ModSoft.
- Quantum data types supported: 3x, 4x
- High speed data transfer across backplane provides quick data update times
- Sample ladder file available

Functional Specifications

The ProSoft Wireless Protocol allows one controller to produce or send an area of its memory onto a network at a specified rate. It also allows another controller to consume or receive this data. Each data message contains a data sample, or snapshot, of a specific portion of the producing node's memory. Data messages are uniquely identified so that consuming nodes can relate the incoming data with a specific configuration (known as an exchange) which describes key characteristics of the data sample. A node can contain a number of these exchanges, so that it may be both a consumer of some exchanges and a producer of others at the same time.

Periodic Data Services provide an efficient mechanism which allows the repeated transmission of a set of variables from a controller which *produces* data, to one or more controllers which *consume* the data. Significant features of the Periodic Data Service include:

- A single request for data from a consumer controller can cause data packets to be sent repetitively from the producer.
- The set of data variables to be sent periodically can be pre-defined so that the controller starts sending the data as soon as it is initialized.
- Data can be sent to the specific node that requested it, or simultaneously to a group of nodes.
- Periodic Data Services utilize a low level protocol (UDP/IP) which requires less overhead than fully acknowledged stream oriented protocols.

Includes ProSoft Configuration Builder (PSW-PCB) configuration software.

General Radio Specifications

Specification	Value
Frequency	2.4 GHz band (2400 to 2483.5 MHz)*
Wireless medium	DSSS - Direct Sequence Spread Spectrum (802.11 b)
Output power	32 mW (15 dBm)
Channel data rates	11, 5.5, 2, 1 Mbps
Channels - user selectable	11 - North America 13 - Europe** 14 - Japan
Security	PWP + WEP 64/128 Encryption with WEP key rollover management
Antenna Ports	Two RP-SMA connectors, automatic antenna diversity
Bit Error Rate (BER)	Better than 10-5



Additional Products

ProSoft Technology® offers a full complement of hardware and software solutions for a wide variety of industrial communication platforms. For a complete list of products, visit our web site at: www.prosoft-technology.com

Ordering Information

To order this product, please use the following:

High Speed Wireless Communication Module

PTQ-WA-PWP

To place an order, please contact your local ProSoft Technology distributor. For a list of ProSoft Technology distributors near you, go to:

www.prosoft-technology.com
and select Distributors from the menu.

Place your order by email or fax to:

North American / Latin American / Asia Pacific
orders@prosoft-technology.com
fax to +1 661.716.5101

Europe / Middle East / Africa
europe@prosoft-technology.com
fax to +33 (0) 5.61.78.40.52

Range / Transmit Rate	High Speed 11 Mbps	Medium Speed 5.5 Mbps	Standard Speed 2 Mbps	Low Speed 1 Mbps
Open Office Environment	160m (525 ft.)	270 m (885 ft.)	400 m (1300 ft.)	550 m (1750 ft)
Semi-Open Office Environment	50 m (165 ft.)	70 m (230 ft.)	90 m (300 ft.)	115 m (375 ft.)
Closed Office	25 m (80 ft.)	35 m (115 ft.)	40 m (130 ft.)	50 m (165 ft)
Receiver Sensitivity	-83 dBm	-87 dBm	-91 dBm	-94 dBm

General range guidelines (actual results may vary)

* Varies with country regulation

** Some European countries such as France allow fewer channels

Hardware Specifications

Specification	Value
Backplane Current Load	1100 mA maximum @ 5 Vdc ± 5%
Operating Temperature	0°C to 60°C (32°F to 140°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Relative Humidity	5% to 95% (without condensation)
Vibration	Sine vibration 4-100 Hz in each of the 3 orthogonal axes
Shock	30G, 11 mSec. in each of the 3 orthogonal axes
Dimensions (HxWxD), Approx.	250 x 103.85 x 40.34 mm 9.84 x 4.09 x 1.59 in
LED Indicators	Module Status Backplane Transfer Status Debug/Config Port Activity LED RF Link RF Data Four Level RF Signal Quality
Configuration Serial Port (Debug/ Config)	DB-9M PC Compatible RS-232 only No hardware handshaking

Agency Approvals & Certifications

CSA/cUL	C22.2 No. 213-1987
CSA CB Certified	IEC61010
ATEX	EN60079-0 Category 3, Zone 2 EN60079-15



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