KWJ-WSN

Serial MODBUS Gateway

Technical Overview

General Description

The KWJ-WSN Serial MODBUS Gateway (SMG) acts as a data concentrator for Monnit wireless sensor networks. This device allows you to connect up to 100 wireless sensing devices, per gateway, to your existing serial MODBUS RS-232C and RS-485 sensing and control infrastructures.

KWJ Engineering has recognized the importance of using open standards like MODBUS, allowing KWJ-WSN wireless sensors to be used in the majority of industrial applications. Modbus is often used to connect a supervisory computer with a remote terminal unit (RTU) in supervisory control and data acquisition (SCADA) systems. Modbus allows for communication between many (approximately 247) devices connected to the same wired network. Therefore, KWJ-WSN SMG's allows for seemingly unlimited wireless expansion of a traditional wired network.

A system incorporating a KWJ-WSN SMG would consists of the the following:

- MODBUS Master – PLC, SCADA, etc.
- Existing RS-232C or RS-485 Infrastructure.
- KWJ-WSN Serial MODBUS Gateway (SMG).
- KWJ-WSN Wireless Sensors

Applications

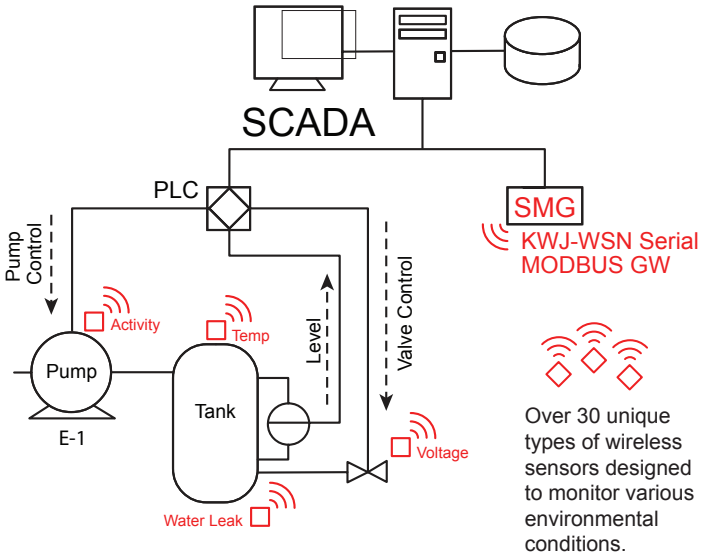
- Process automation protocols
- Industrial control system protocols
- Building automation protocols
- Power system automation protocols
- Automatic meter reading protocols
- Automobile / Vehicle protocol buses
- In any existing MODBUS system

Features

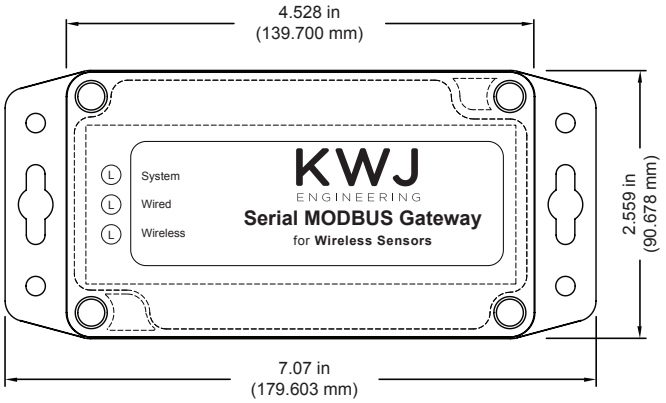
- Works with KWJ-WSN 900, 868 and 433MHz Sensor Networking Solutions
- Communicates with MODBUS RTU / ASCII Serial Protocols
- Supports RS-232C / RS-485 Interfacing
- LED Status Indicators
- NEMA 4X / IP65 Rated Enclosure
- RP SMA Antenna Connector (Antenna Included)

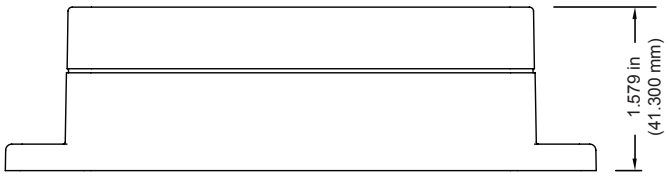
Example Network Integration

KWJ-WSN wireless sensors integrate with existing MODBUS systems allowing for additional environmental variables to be monitored.



KWJ-WSN Serial MODBUS Gateway Specifications	
General	
KWJ-WSN Radio Support	RFSC1 Module by KWJ Engineering Frequencies: 433, 868 and 900 MHz (Future support for WiFi and 500 mW modules)
Antenna	Connector: SMA Gain: 5.0 dBi Standard
3 Wire Communication Interface	
RS-232C	TXD (OUT), RXD (IN), and Ground / Common
RS-485	D+, D-, and Ground / Common
Protocol Selector	Jumper for RS-232 and RS485
Power	
Input Voltage Range	4.5 - 36.0 VDC
Minimum Current Required	100mA (500mA Recommended)
Mechanical	
LEDs	Wireless Activity, Wired Activity, System Status
Reset Feature	Communication / Factory Settings Reset Jumper
Enclosure	Durable, Impact-Resistant UV Stabilized Polycarbonate (IP65 of IEC 529 and NEMA 1, 2, 4, 4x, 12 and 13 Rated)
Dimensions	179.603 x 90.678 x 41.30 mm
Weight	16 ounces
Environmental	
Operating Temperature	-40 to +85 °C (-40 to +185 °F)
Certifications:	FC CE Industry Canada 900 MHz product; FCC ID: ZTL- RFSC1 and IC: 9794A-RFSC1. 868 and 433 MHz product tested and found to comply with: CISPR 22:2008-09 / EN 55022:2010 - Class B and ETSI EN 300 220-2 V2.4.1 (2012-05).





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