**BASIC OPERATION**

The High Density Pulse Module (A8911) provides a convenient way to add multiple pulse output devices to Modbus systems such as the Energy Monitoring Hub. The A8911 accepts up to 23 standard pulse sensors and can function as a slave device with any Modbus master. This data can easily be integrated to a network of other critical energy sensors such as Modbus power meters to provide a comprehensive energy monitoring solution.

The A8911 can be incorporated with cost effective data acquisition and wireless metering solutions. The Energy Monitoring Hub and Modhopper wireless transceivers, as a properly integrated system, provide high performance and low cost for a variety of applications.

**APPLICATIONS**

The High Density Pulse Module is ideal for applications with a high density of pulse output devices, giving users' access to meters that would previously require multiple modules. The flexible module allows integration with any Modbus master device such as the Energy Monitoring Hub.

- Demand response program control and reporting
- Cost allocation to tenants and third parties
- Measurement & verification of energy savings
- Monitoring performance of building systems
- Electric submetering

**FEATURES**

- External communications handled via shielded twisted pair 18-22 gauge wire allowing communication up to 4000 feet
- Pulse input communications up to 200 feet (consult factory for longer runs) using 18-24 gauge control wire
- DIN or wall mounting make installations quick and easy
- The onboard dipswitch sets the Modbus address.
- Industry standard pulse inputs connect to most pulse output meters
- Device verification - LED indicators for each pulse input allow for fast indication and verification of pulses
- LED verification of RS 485 Modbus TX/RX communications
- Non-volatile memory retains configuration and pulse count totals during power failures
- Designed specifically for metering applications
- Easily add pulse meters to Modbus network
- Field upgradable firmware
## SPECIFICATIONS

### DEVICE
- **Processor**: ARM7 field upgradeable firmware
- **LEDs**: 23 input status LEDs (red), 2 Modbus TX/RX (yellow), 1 power/alive status (green)

### POWER
- **Power Supply**: 9VDC to 30VDC, 200mA, Required (not included)

### COMMUNICATION
- **Protocols**: Modbus/RTU

### INPUTS
- **Pulse Inputs**: 23 independent pulse count inputs
  - Intended for use with dry contact outputs
  - Pulse rate/width user selectable to 10hz, 50hz, or 100hz
  - Pulse rate option: 10hz, minimum pulse width 50ms
  - Pulse rate option: 50hz, minimum pulse width 10ms
  - Contact closure threshold: 100 Ω to 2.5k Ω user selectable
  - Pulse count values are stored in non-volatile memory
  - 32 bit pulse counter: Rollover at 4.295 billion per channel
- **Serial Port**: RS-485 two wire, 19200 or 9600 baud, N81
- **Isolation**: Pulse inputs, power inputs and RS485 are non-isolated.

### OUTPUTS
- **Relays**: 2x, dry contact (opto-fet) 30 VDC, 150 mA max

### PHYSICAL
- **Weight**: 3.7oz (105g)
- **Size**: 4.13” x 3.39” x 1.18” (105mm x 86mm x 30mm)

### ENVIRONMENT
- **North America**: Indoor, 32°F to 122°F (0°C to 50°C), 0-95% humidity, non-condensing

### CODES & STANDARDS
- **Emissions**: FCC CFR 47 PART 15, Class A

### ORDERING INFORMATION
<table>
<thead>
<tr>
<th>CAT. NO. *</th>
<th>DESCRIPTION</th>
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<tr>
<td>A8911-000</td>
<td>High Density Pulse Module</td>
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