

# ADAM-2031Z

# ADAM-2017PZ

# ADAM-2051PZ

Wireless Temperature & Humidity Sensor Node  
 Wireless 6-ch Analog Input Node with Power Amplifier  
 Wireless Sensor Network 8-ch Digital Input Node with Power Amplifier



ADAM-2031Z



ADAM-2017PZ



ADAM-2051PZ



## Features

- IEEE 802.15.4 Wireless Standard
- Supports Star/Tree/Mesh Network Topologies
- Modbus Communication Protocol
- Low Power Consumption
- LED Indicators
- Sensor Embedded

## Specifications

### Temperature Sensor Input

- Operating Range** -20°C ~ 70°C (-4°F ~ 157.9°F)
- Resolution** 0.02°C (0.04°F)
- Accuracy** ±2.0°C
- (Battery Mode)** ±1.0°C @ 25 ~ 40°C
- Response Rate** ±1°C/min.
- Long Term Drift** < 0.04°C/Year (0.07°F/Year)

### Humidity Sensor Input

- Operating Range** 0 ~ 100% RH
- Resolution** 0.15% RH
- Accuracy** ±8.0% RH
- (Battery Mode)** ±6.0% RH @ 40 ~ 60% RH
- Response Time** 8 seconds (Achieving 63% of a step function)
- Long Term Drift** 0.5% RH/Year

### General

- Power Consumption** 0.3 W @ 24 V<sub>DC</sub> (Battery AA \* 2)  
420 uW @ 3 V<sub>DC</sub> (1 minute Tx Interval)  
240 uW @ 3 V<sub>DC</sub> (2 minute Tx Interval)  
150 uW @ 3 V<sub>DC</sub> (5 minute Tx Interval)

## Ordering Information

- ADAM-2031Z** Wireless Temperature & Humidity Sensor Node

## Features

- IEEE 802.15.4 Wireless Standard
- Supports Star/Tree/Mesh Network Topologies
- Modbus Communication Protocol
- LED Indicators

## Specifications

### Analog Input

- Channels** 6 Non-Isolation (Differential)
- Input Max Voltage** +/-15V
- Common Mode Volts** 10 V<sub>DC</sub>
- Input Impedance** >10 MΩ (Voltage), 120Ω (Current)
- Input Type** mV, V, mA
- Input Range** ±150mV, ±500mV, ±1V, ±5V, ±10V, ±20mA, 0 ~ 20mA, 4 ~ 20 mA
- Accuracy** Voltage: +/-0.1% or better at 25°C  
Current: +/-0.2% or better at 25°C
- Span Drift** ±25 ppm/°C
- Zero Drift** ±6 μV/°C
- Resolution** 16-bit
- Sampling Rate** 12 samples/second (total)
- CMR @ 50/60 Hz** 100 dB
- NMR @ 50/60 Hz** 65 dB

### General

- Power Consumption** 0.5 W @ 24 V<sub>DC</sub> (Battery AA \* 2)  
380 uW @ 3 V<sub>DC</sub> (1 minute Tx Interval)  
220 uW @ 3 V<sub>DC</sub> (2 minute Tx Interval)  
130 uW @ 3 V<sub>DC</sub> (5 minute Tx Interval)

## Ordering Information

- ADAM-2017PZ** Wireless 6-ch Analog Input Node with Power Amplifier

## Features

- IEEE 802.15.4 Wireless Standard
- Supports Star/Tree/Mesh Network Topologies
- Modbus Communication Protocol
- LED Indicators
- Event Triggering

## Specifications

### Digital Input

- Channels** 8
- Input Resistance** 10 KΩ
- Input Level** Dry contact: Logic level 0: Close to GND  
Logic level 1: Open  
Wet contact: Logic level 0: 0-0.8 V max  
Logic level 1: 2.0 ~ 5.0 V  
(Note: The Digital Input Level 0 and 1 status can be inverted)

### General

- Power Consumption** 0.3 W @ 24 V<sub>DC</sub> (Battery AA \* 2)  
380 uW @ 3 V<sub>DC</sub> (1 minute Tx Interval)  
220 uW @ 3 V<sub>DC</sub> (2 minute Tx Interval)  
130 uW @ 3 V<sub>DC</sub> (5 minute Tx Interval)

## Ordering Information

- ADAM-2051PZ** Wireless 8-ch Digital Input Node with Power Amplifier
- ADAM-2051Z** Wireless 8-ch Digital Input Node

## Common Specifications

### Wireless Communication

- IEEE Standard** IEEE 802.15.4
- Modulation Type** DSSS (OQPSK)
- Frequency Band** ISM 2.4 GHz (2.4 GHz ~ 2.4835 GHz)
- Channels** 11 - 26
- RF Data Rate** 250 Kbps
- Transmit Power Typ.** 3 ± 1 dBm (ADAM-2031Z, ADAM-2051Z)  
15 ± 1dBm (ADAM-2017PZ)  
19 ± 1 dBm (ADAM-2051PZ)
- Receiver Sensitivity** -97 dBm
- Topology** Star / Tree / Mesh

- Outdoor Range** 110 m with line of sight (ADAM-2031Z, ADAM-2051Z)  
1000 m with line of sight (ADAM-2017PZ, ADAM-2051PZ) End Device

### Function

### General

- Connectors** 1 x plug-in terminal block (#14 ~ 22 AWG)
- Power Input** Unregulated 10 ~ 30 V<sub>DC</sub>
- Battery Input** 2 x AA Alkaline

### Environment

- Operating Temperature** External Power -20°C ~ 70°C (-4°F ~ 157.9°F)  
Battery Power 0°C ~ 50°C (32°F ~ 122°F)
- Storage Temperature** -20°C ~ 70°C (-4°F ~ 157.9°F)
- Operating Humidity** 20 ~ 95% RH
- Storage Humidity** 0 ~ 95% RH