

# A2 LONG RANGE

Long-range, multiple-input modules for sophisticated data transmission over distances of up to three miles between nodes.

POWERS SENSOR AND RADIO FOR YEARS WITH A BATTERY

RUGGED DESIGN FOR DEMANDING OUTDOOR ENVIRONMENTS

UP TO A 3-MILE RANGE

AUTOMATICALLY CONFIGURES AS A STAR OR MESH NETWORK

SIMPLE TO INSTALL AND MAINTAIN



## FEATURES

- Powers sensor and radio for years with an internal battery
- Optional solar power package
- Costs less than 60ft of installed conduit
- Rugged design for demanding outdoor environments
- Up to 3-mile range
- Sensor independent
- 1/2" NPT conduit interface
- Automatically configures as a star or mesh network
- Simple to install and Maintain



## MODELS

### A2

Monitor two analog sensors and one digital input:

- 4-20 mA current loop sensor
- 1-5 V sensor
- Digital input/counter

### HART

Monitor one HART® loop and one digital input:

- HART (1-4 sensors)
- Digital input/counter

### Modbus

Monitor one or more Modbus sensors

### Thermocouple Input

Monitor one K-Type Thermocouple

### SDI-12 Interface

Monitors and powers one or more SDI-12 sensors:

- Provides 12VDC to a single SDI-12 bus
- Reads/reports up to 10 measurements
- Supports SDI-12 sensor addresses 0 through 9
- Supports reading the default measurement and all additional measurements from connected SDI-12 devices
- All measurements are available as 32bit float values in Modbus registers at the Gateway

### Cathodic Protection Monitor

Monitors cathodic protection DC rectifier voltage & current:

- DC rectifier range 0-75V
- Measures voltage across high side shunt resistor, 0-100mV range
- Can convert shunt voltage to current when configured with shunt resistance
- 1 Digital input, reports state and frequency

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## TECHNICAL SPECIFICATIONS

### Operating Temp

-40°F to 185°F (-40°C to 85°C)

### Humidity

0% – 100% condensing

### Power

3 X D Lithium battery pack. Field replaceable. Solar and DC input power options available.

### Sensor Power

12.5 or 18V Jumper selectable for 4-20mA current loop, 1-5V, or HART sensors. Sensor power is provided from the system, no need for external sensor power. (Modbus requires external sensor power.)

### Battery Life

1–10 years depending on the type of sensor and reporting frequency

### Data Interface

Wireless – available as Modbus registers at Gateway

### Data Update Rates

User configurable from 5 sec to 2 hours

### Supported Sensor Interfaces

- Analog (4-20mA/1-5V)
- Digital input
- HART
- RS485 Modbus RTU
- K-Type Thermocouple
- SDI-12 sensors
- Cathodic Protection

### Radio Power

500 mW

### Antenna Type

External Weather Resistant, Omnidirectional. Optional N-Connector for remote mounted antenna.

### Receive Sensitivity

-105 dB

### Frequency

902-928 MHz License Free ISM Band  
Compliant with FCC Part 15

### Range

Up to 3 Miles (Line of Sight)

### Enclosure

Aluminum, NEMA 4X Rated

### Internal Diagnostics

Battery voltage, signal strength, error conditions

## STANDARD CONFIGURATION ORDER CODES

A2 - [ ] - [ ] - [ ]

### Sensor Type

Hart	=	HART Communication Interface, supports up to 4 HART devices
A2D1	=	Dual Selectable Analog 1-5V or 4-20mA Interface and Single Digital Input
A1D1P1	=	Selectable Analog 1-5V or 4-20mA, Single Digital Input, and Potentiometer
CP	=	Cathodic Protection Monitoring Interface
KTHERM	=	K-Type Thermocouple Interface
485	=	RS485 Modbus Interface
SDI-12	=	SDI-12 Interface and Digital Input

### Antenna

STDANT	=	Integrated Antenna
N20	=	Remote Antenna, N-Male, 20' RG58 Cable
N30	=	Remote Antenna, N-Male, 30' RG58 Cable
N50	=	Remote Antenna, N-Male, 50' RG58 Cable

### Power Source

3XD	=	Lithium Primary Battery
DC	=	DC Converter for 10-30VDC External Power
HCSolar	=	High Capacity Intrinsically Safe Solar System