



SA-1

NB-IOT/ LTE CAT M1 Smart Antenna



The Smart Antenna is a programmable cloud -based device, which can be added to any electrical system as a control or monitor device. It controls or monitors a system according to measured data and algorithm in the cloud. This antenna has digital input channel, digital output channel, and a Modbus/ Can bus connection channel.

Power Specification

Operation Voltage	9-30V
Input Voltage Range	0-30V (low:0-5, High: 9-30)
Current Consumption at Transmission	100mA

Modbus Specification

Baud Rate	1200, 2400, 4800, 9600, 19.2K, 38.4K, 57.6K,115.2K
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Connection Interface/ Physical Layer	RS-485, Half Duplex
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Can Bus Specification

Compatibility	IOS 11898-2 Standard
ESD Protection	<16 kV
Input Impedance	High, allows for up to 120 nodes on a bus
Transmission Times	Adjustable
Data Rates	Up to 1 Mbps

Environmental Specification

Operating Temperature	-40°C to +75°C
Storage Temperature	-40°C to +150°C
Humidity Range	20 - 90% Relative Humidity
Dimensions	φ 3.878 ,1.876 Height

For more information visit www.ctismartsystems.com/modules

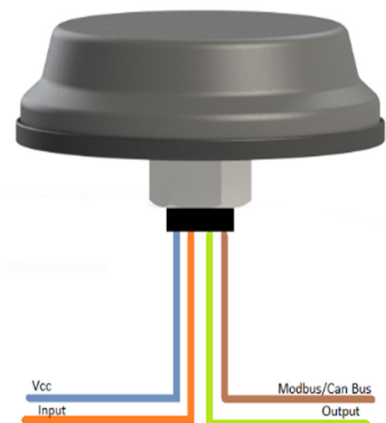


Figure 1 shows the wiring diagram of the Smart Antenna (SA-1) in a basic application connected to a voltage source, switch as an input and a lamp as an output. The smart antenna has a Cat5 Cable which consists of four twisted pairs of wires, with a specified function for each pair. The blue pair is a Vcc, the orange pair is an input, the green pair is an output and the brown pair is for Modbus or Can Bus. All wires with a color mixed with white are negative terminals.

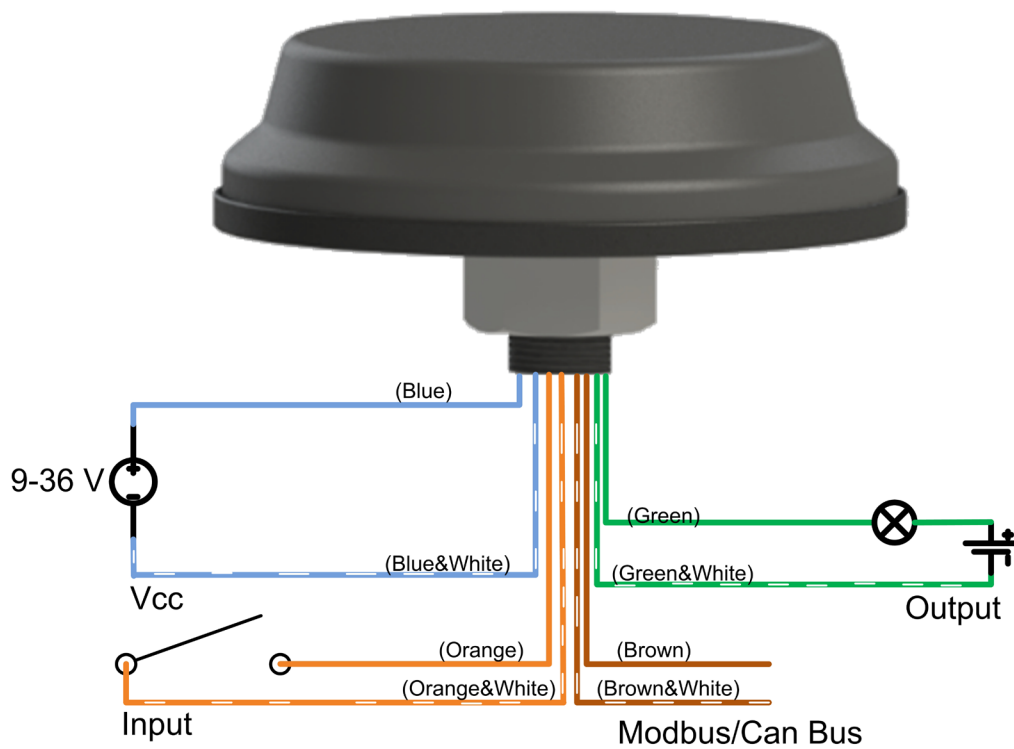


Figure 1: Basic Application Wiring Diagram

Figure 2 shows the wiring diagram of the Smart Antenna, connected to an ECU .

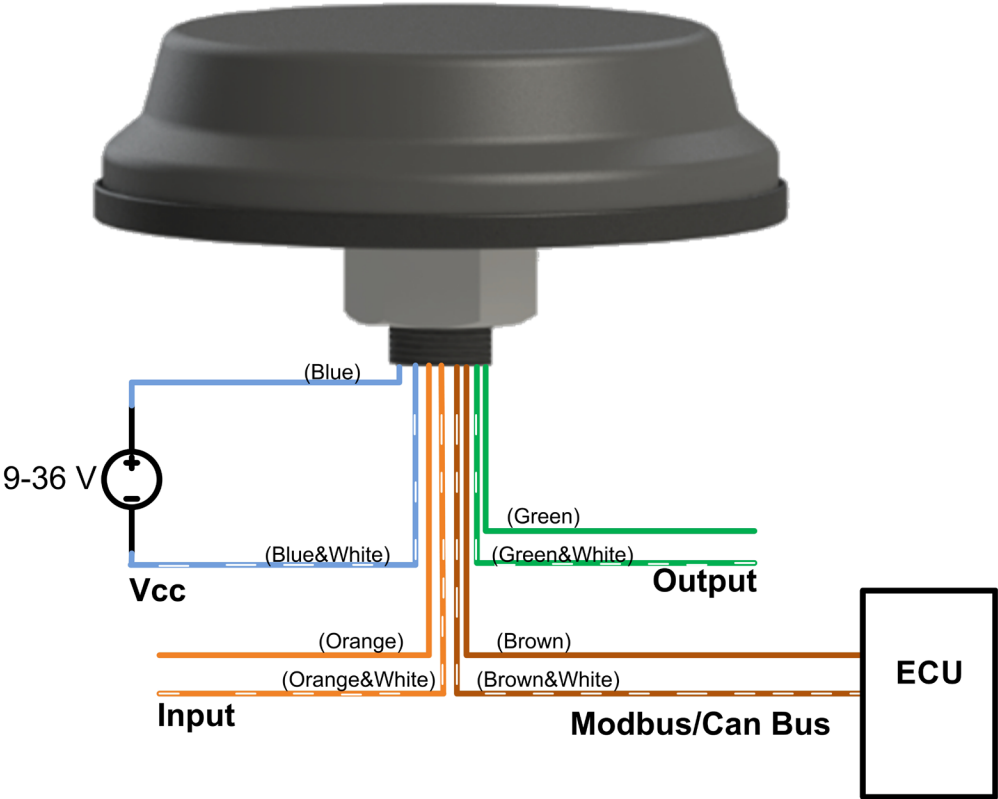


Figure 2: ECU Connected to The Smart Antenna Wiring Diagram

The IOM-44-N module is an output /input Modbus module which can be connected to our smart antenna . It has 4 input channels and 4 output channels.

To Connect The smart Antenna with this module, terminals A and B need to be connected to the brown pair of wires. The brown wire should be connected to terminal A which is the positive terminal, and the brown and white wire should be connected to terminal B, which is the negative terminal. Figure 3 shows the IOM-44-N module connected to the Smart Antenna.

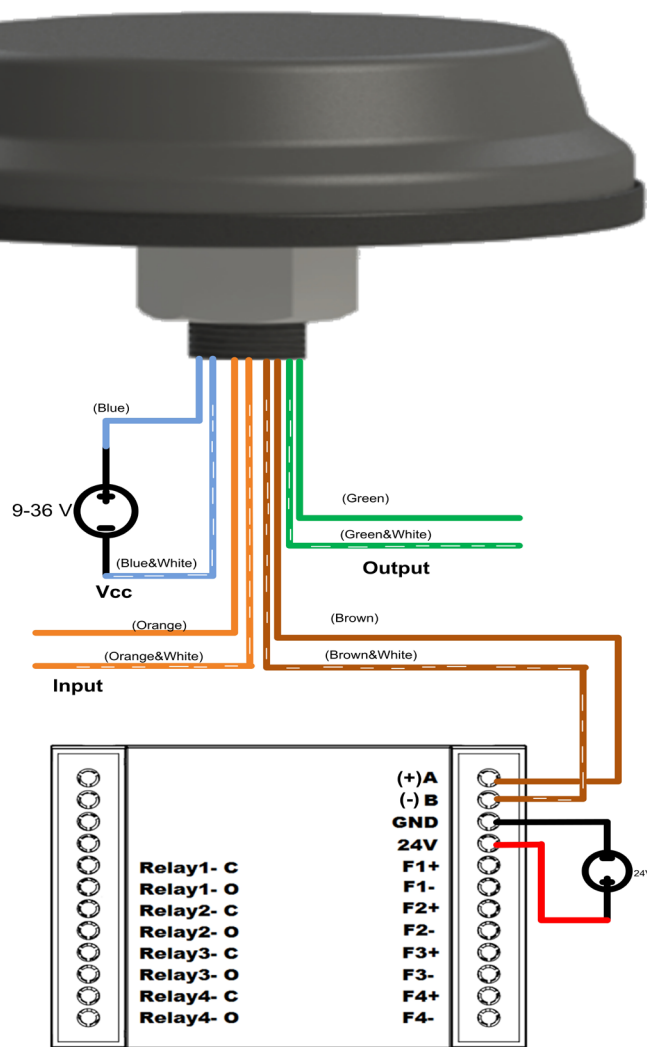


Figure 3: The Smart Antenna Connected to our IOM-44-n Module.

The IOM-44-N Module can be connected in series with multiple modules, figure 4 shows the wiring diagram of multiple IOM-44-N modules .

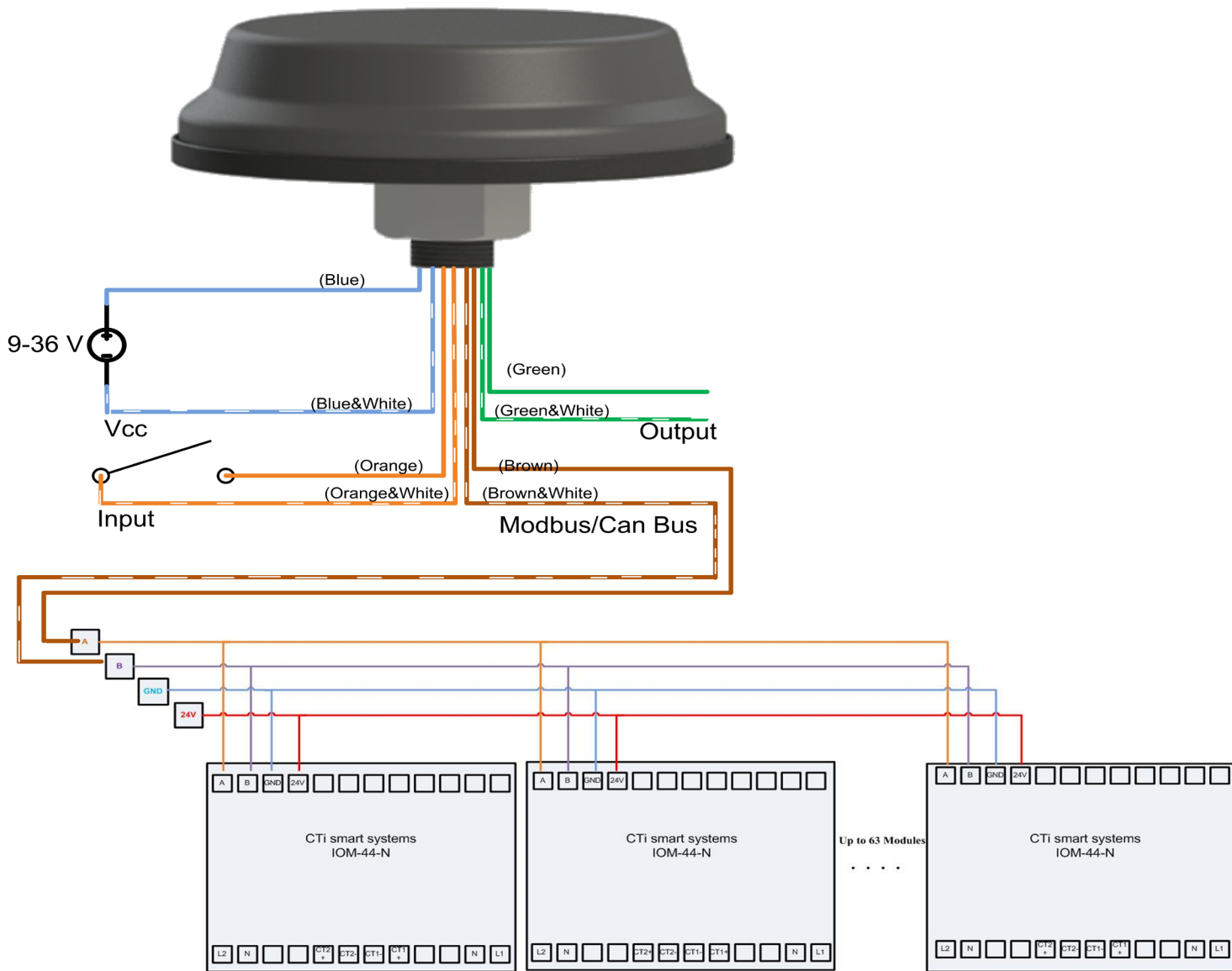


Figure 4 :Multiple IOM-44-N Modules Connected in Series & With the Smart Antenna .

The dimensions of the smart antenna are shown in the following figures .

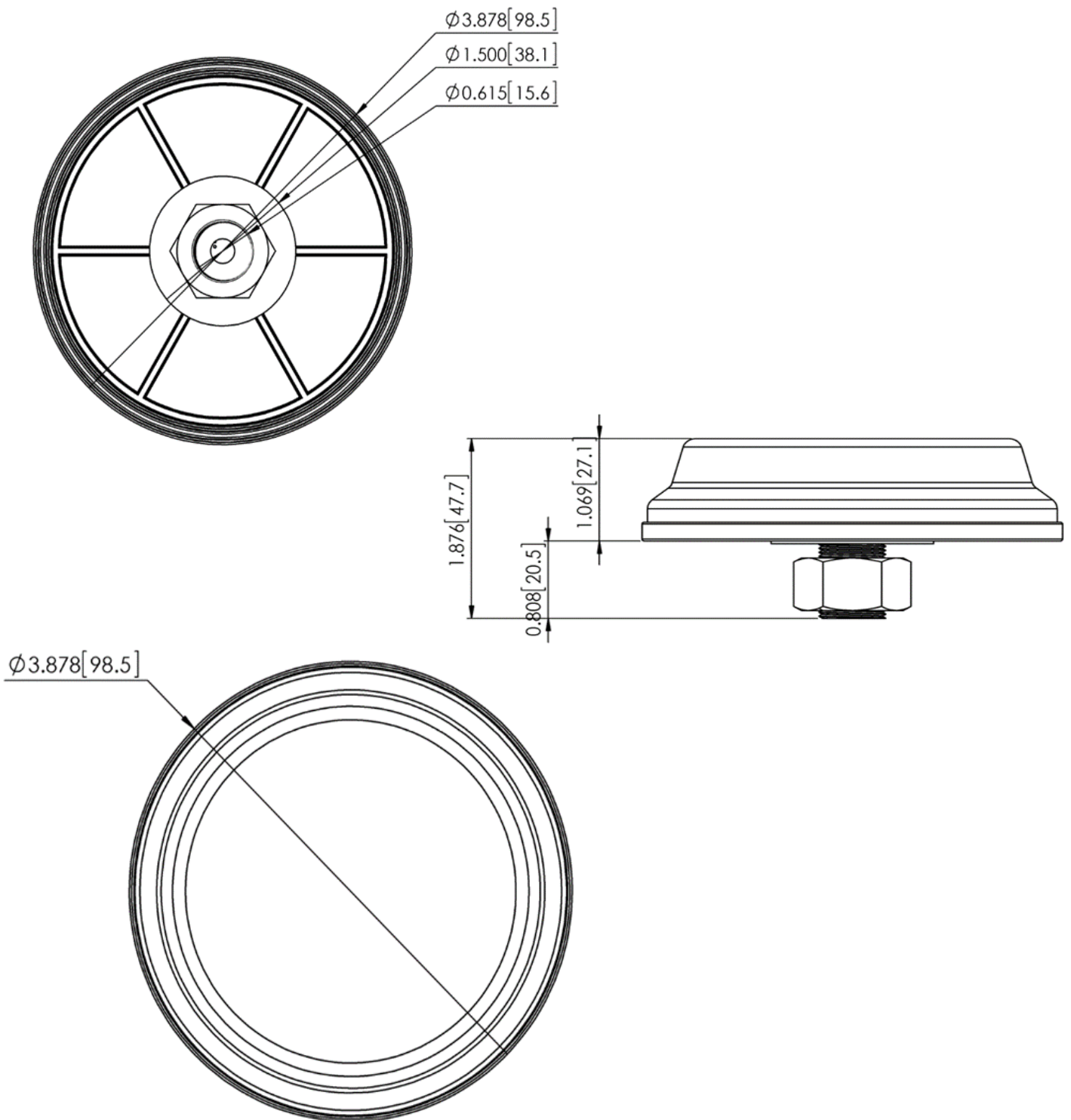


Figure 5: The dimensions of the smart Antenna