Cable Replacement Configuration for MultiHop Radios Running Modbus

Configure Modbus MultiHop Radios as a Cable Replacement

Follow these steps to configure your MultiHop radios running Modbus to act as a replacement for cables.

Before installing the MultiHop radios, first confirm your Modbus network runs properly when wired. There are many Modbus masters and slaves available on the market. Some devices support a limited set of function codes or have other limitations.

The Modbus master and slave need to be properly configured to each other before you insert the data radios into the network.
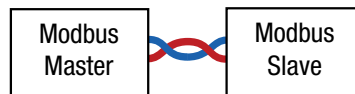
1. Configure the master and slave system to be compatible with the Sure Cross MultiHop Radios but do not add the radios yet.
   a) Set Communication Parameters: 19,200 baud, 8 bit, no parity, and 1 stop bit.
   b) Set the master's time out to 2 seconds (2000 ms).
   c) Limit the data size per telegram to 60 words for the 2.4 GHz, or 75 words for the 900 MHz version of the data radio.
   d) Set the Modbus address of the slave device to address 11. By default the MultiHop Data Radio only relays messages to Modbus addresses 11–61 and ignores other addresses.
2. Confirm that the wired system still works properly without the radios.
3. Set the MultiHop Data Radio rotary address switches to FF. This configures them to not have a Modbus address and they are not a Modbus slave on the network.
4. Run the binding procedure to bind the two MultiHop radios. Verify the radios are synchronized to each other and have formed a wireless network. (See the MultiHop Quick Start Guide (p/n *152653*) or MultiHop Instruction Manual (p/n *151317*) for binding instructions).
5. Break the wired connection and wire the MultiHop radios to the Modbus master and Modbus slave devices. You should see no change in the system.

The host system can communicate directly to the slave MultiHop radio if the slave MultiHop radio is assigned a MultiHop Radio ID (also used as the Modbus address). To allow direct communication between the host system and the MultiHop slave radio, assign an unused Modbus address. For example, assign the MultiHop slave an address of 31 using the radio's rotary dials. To access the remote radio's I/O, you will need to assign MultiHop Radio IDs to the radios.