

## Overview

This FAQ describes proper method of wiring an RS-485 network, with recommendations for twisted-pair cabling. Configuration shown is for the typical connection between the WiPoint-485 and the WiStat 5

### Disclaimer:

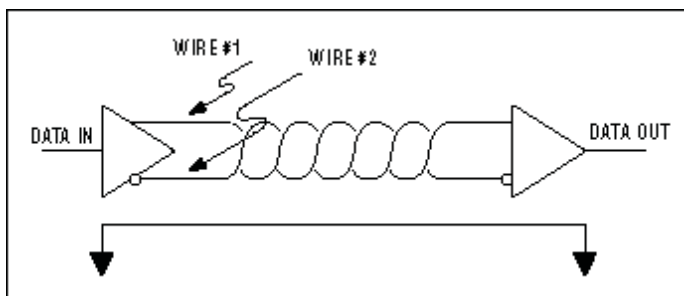
The RS-485 specification does not specify how an RS-485 network should be wired. The suggestions here, however, are by no means inclusive of all the different ways that an RS-485 network can be configured and we are not implying that they should be used for connecting equipment other than the WiPoint and WiStat. These guidelines and sound engineering practices are the basis of this note

### WiPoint-485/WiStat 5 Specifics:

The WiPoint-485 has two terminals for RS-485 communications. Digital information that is sent between the WiStat and the WiPoint is sent via these terminals. The data rate is set at 9600 baud. Based on Lab testing, the RS-485 connection between the WiPoint and the WiStat should not exceed 20 feet.

### Wire:

RS-485 is designed to be a balanced system. Simply put, this means that there are two wires, other than ground, that are used to transmit the signal. Twisted-pair wiring helps to eliminate spurious signals introduced by noise on the line.



### WiSuite Wiring:

The WiSuite system has been tested with twisted pair wiring used between the WiPoint and WiStat. We recommend Cat5 cable (or better) as this is what was used in our lab certification process. Connections need to be made as follows:

WiPoint 485	WiStat 5
Terminal A	Terminal A
Terminal B	Terminal B

### Notes:

1. Do NOT use standard thermostat cable to make the RS-485 connections.
2. Do NOT run the RS-485 communications wires parallel to AC circuits such as high voltage (120/208/240 Volt) power lines or 24 Volt control lines.

## WiSuite Network Facts:

### Wireless RS485?

WiSuite is a mesh data network communicating on a "Wireless" RS485 standard using the ZigBee 802.15.4. It combines the best of RS485 communications commonly used in control networks and the redundancy and resiliance of ZigBee mesh communications.

### Network Terminations

The RS-485 termination of the WiSuite WiPoint and other devices allows the WiSuite network to interface to standards based control devices such as thermostats, relays, sensors, ballasts, switches, etc.

### Devices

Each device attached to the WiSuite network will use RS485 wiring as described here to interface and communicate to the WiSuite Control Center.

### Other Interfaces

WiSuite also supports USB, Ethernet and RS232 and other physical interfaces.