

One-Wire Temperature Sensor Wiring Diagram

Wednesday, March 15, 2006

The HA7Net digital one-wire sensor controller allows up to 100 sensors that can be accessed via standard 10/100 ethernet. Each device has a unique 64 bit ID code that is found by using the search utility. All of the sensors are wired in parallel and can be powered via +5V or parasitically if the Vdd pin is tied to GND. For each of these cases a jumper needs to be properly inserted inside the HA7Net. (see figure below)

There are three RJ-11 ports on the HA7Net that have the SIG's in parallel but allow the simultaneous use of parasitic and +5V powered groups of sensors. The RJ-11 connector that is used to plug a group of sensors into the HA7Net should be wired as shown below. The jumper inside the case is a standard 2 pin .1in plastic shrouded part similar to the ones used for computer disk drives.

There are two types of one-wire sensors that can be used with HA7Net controller. The first is the STP type enclosed in a four inch stainless steel tube and is prewired to CAT-5 cable in the parasitic power configuration.

The second is the DS18B20, a discrete part in the TO-92 package, to be wired as shown below. It can be paralled on the same RJ-11 connection as the STP only if run in the parasitic mode. The RJ-11 wiring is similar for both as long as the CAT-5 color code is chosen correctly. There are CAT-5 cables that do not prescribe to the standard color code, but can be used as long as the installer maps the pins correctly.

