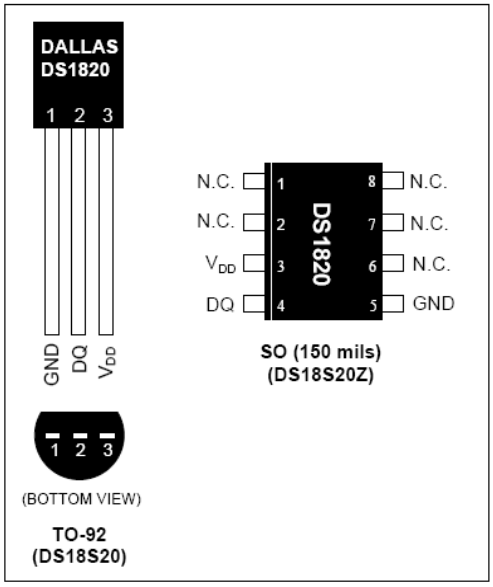
DS 18S20

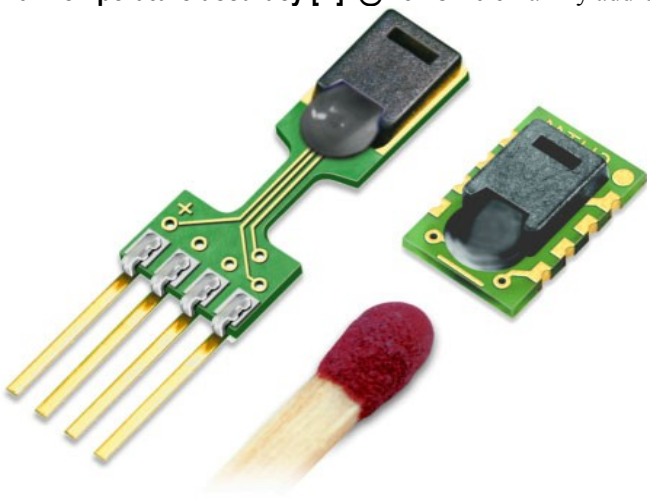
PIN CONFIGURATIONS



DESCRIPTION

The DS18S20 digital thermometer provides 9-bit Celsius temperature measurements and has an alarm function with nonvolatile user-programmable upper and lower trigger points. The DS18S20 communicates over a One-Wire bus that by definition requires only one data line (and ground) for communication with a central microprocessor. It has an operating temperature range of –55°C to +125°C and accuracy of ±0.5°C over the range of –10°C to +85°C. In addition, the DS18S20 can derive power directly from the data line ("parasite power"), eliminating the need for an external power supply.
Each DS18S20 has a unique 64-bit serial code, which allows multiple DS18S20s to function on the same One-Wire bus. Thus, it is simple to use one microprocessor to control many DS18S20s distributed over a large area. Applications that can benefit from this feature include HVAC environmental controls, temperature monitoring systems inside buildings, equipment, or machinery, and process monitoring and control systems. Family address $10, e.g. an actual address is 1012345678901011, 1012345678901012 and so on.

The SHT15 is a single chip relative humidity and temperature multi sensor module comprising a calibrated digital output. Application of industrial CMOS processes with patented micro-machining (CMOSens® technology) ensures highest reliability and excellent long term stability. The device includes a capacitive polymer sensing element for relative humidity and a band gap temperature sensor. Both are seamlessly coupled to a 14bit analog to digital converter and a serial interface circuit on the same chip. This results in superior signal quality, a fast response time and insensitivity to external disturbances (EMC) at a very competitive price. Each SHT15 is individually calibrated in a precision humidity chamber with a chilled mirror hygrometer as reference. The calibration coefficients are programmed into the OTP memory. These coefficients are used internally during measurements to calibrate the signals from the sensors. The 2-wire serial interface and internal voltage regulation allows fast and easy system integration. Its tiny size and low power consumption makes it the ultimate choice for even the most demanding applications.
Humidity accuracy [%RH]-±2.0 **Temperature accuracy [K] @ 25 °C** ±0.3 Family address $21



RS232 **or** RS485 cable specification
The cable is with DB9(f) connector to RJ45 connector
Pinout

signals	RJ45	color	DB9	RS485
CTS	1	LO	NC	Rx-
DTR	2	O	NC	Rx+
TxD	3	LG	3	NC
GND	4	Bl	5	NC
GND	5	L Bl	5	NC
RxD	6	G	2	NC
DSR	7	L Br	NC	Tx-
RTS	8	Br	NC	Tx+

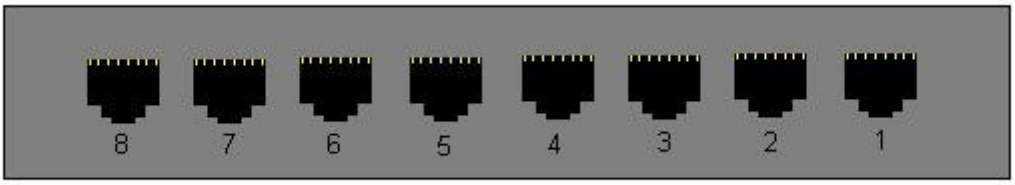
1-Wire bus cable for DS18S20
Pinout at RJ45 connectors(**Straight** UTP cable)

1-NC
2-NC
3-**VDD**
4-NC
5-**DQ**
6-NC
7-**GND**
8-NC

SHT15 Humidity and temperature multi sensor module.
Pinout at RJ45 connectors(**Straight** UTP cable)

1-**Tx-**
2-**Tx+**
3-**VDD**
4-**GND**
5-**GND**
6-VDD
7-**Rx-**
8-**Rx+**

Concentrator



Connect the computer to the 1st port using straight RS232/RS485 full duplex cable.
Connect sensors of type DS18S20 to whichever port from 3 to 8 with STRAIGHT RJ45 UTP/FTP cable.
Connect sensors of type SHT15 **ONLY** to port 2
NOTE 1: If the cable to sensors is not STRAIGHT RJ45 UTP/FTP (i.e. is a crossover), or port for DS18S20 and SHT15 are incorrect, damage to thremoprobes will occur!

NOTE 2: When addressing a thermoprobe in the script, port numeration is as follows:
8th port of the concentrator is in fact port 0, 7th - port 1, 6th – port 2, 5th - port 3, 4th – port 4, 3rd – port 5,
2nd – port 6 is ONLY for Humidity and temperature multi sensor(SHT15)
The default (when not specified) is port 0