



NTC probe Compatibility with TM3TI8T / TM3TI8TG modules.

The TM3TI8T / TM3TI8TG modules are only compatible with NTC probes with resistance values included between 100Ω and 10KΩ for the temperature range measured in the application. This information is found on the data sheet of the probe provided by the manufacturer.

Thermistors are known for having a large change in resistance value (for example between 100Ω and up to 200KΩ) associated to a given change of temperature (for example from -55°C to 150°C). The function between the resistance and the temperature is not linear and its curve varies from one manufacturer to another.

The actual TM3TI8T / TM3TI8TG modules are designed for a resistance range varying from 100Ω to 10kΩ and this has an impact on the choice of probe that can be used. Depending on the temperature range needed for an application, make sure this temperature range falls within the specifications of the probe for resistance values between 100Ω and 10KΩ.

As an example, for a NTC 1.8K probe, meaning that the reference resistance at 25°C is 1800Ω, the possible temperature range varies between -15°C and 120°C: see the following chart.

Sensor resistance at different temperatures:

°C	Ω	°C	Ω
120	110	25	1800
100	178	20	2177
90	230	15	2649
80	303	10	3241
75	349	5	3989
70	403	0	4940
65	468	-5	6159
60	545	-10	7730
55	638	-15	9771
50	750	-20	12 443
45	885	-25	15 969
40	1049	-30	20 659
35	1250	-40	35 480
30	1496	-50	63 229

} Incompatible range with Ω values above 10KΩ