

DTM500 Series Specifications

The characteristics listed in this section apply under the following conditions:

- The instrument operates in an 18° to 28° C ambient environment unless otherwise noted.
- The instrument warms up for 60 minutes.

NOTE. All specifications are warranted unless marked "typical." Typical characteristics are not guaranteed but are provided for the convenience of the user.

Specifications marked with the ✓ symbol are checked in the performance verification procedures.

Table 1: General characteristics

Characteristic	Description		
Product	Measurement Range		
DTM510	-50° to 1300° C (-58° to 1999° F)		
DTM520 (K-type probe)	-200° to 1370° C (-328° to 2498° F)		
DTM520 (J-type probe)	-200° to 760° C (-328° to 1400° F)		
✓ Accuracy	Temperature Range	Resolution	% of Reading
DTM510	-50° to 199.9° C	0.1° C	±(0.2% + 1° C)
	-58° to 391° F	0.1° F	±(0.2% + 2° F)
	-50° to 199.9° C	1° C	±(0.3% + 2° C)
	-58° to 391° F	1° F	±(0.3% + 4° F)
	200° to 999.9° C	1° C	±(0.4% + 2° C)
	392° to 1831° F	1° F	±(0.4% + 4° F)
	1000° to 1300° C	1° C	±(0.6% + 2° C)
	1832° to 1999° F	1° F	±(0.6% + 4° F)

Table 1: General characteristics (cont.)

Characteristic	Description		
✓ Accuracy	Temperature range	Resolution	% of reading
DTM520 (K-type probe)	–200° to –100° C	0.1° C	±(0.3% + 1° C)
	–328° to –148° F	0.2° F	±(0.3% + 2° F)
	–99.9° to 999.9° C	0.1° C	±(0.1% + 0.7° C)
	–147.9° to 999.9° F	0.2° F	±(0.1% + 1.4° F)
	1000° to 1370° C	1° C	±(0.3% + 1° C)
	1000° to 2498° F	2° F	±(0.3% + 2° F)
	T1 – T2 reading	—	±(0.3% + 2.2° C)
✓ Accuracy	Temperature range	Resolution	% of reading
DTM520 (J-type probe)	–200° to –100° C	0.1° C	±(0.3% + 1.1° C)
	–328° to –148° F	0.2° F	±(0.3% + 2.2° F)
	–99.9° to 760° C	0.1° C	±(0.1% + 0.8° C)
	–147.9° to 999.9° F	0.2° F	±(0.1% + 1.6° F)
	1000° to 1400° F	2° F	±(0.3% + 2° F)

Table 2: General characteristics

Characteristic	Description
Temperature Range	ATP01 bead probe: –40° to 204° C
Probe Tolerance	ATP01 bead probe: ±2.2° C
Measurement Rate (Readings/second)	
DTM510	2.5
DTM520 (T2 or T1)	1
DTM520 (T1 – T2)	0.5
Input Protection	24 V maximum. Class III as defined in IEC 1010, Safety Requirements for Electrical equipment for measurement, control, and laboratory use. Class III equipment is equipment for connection to SELV or SELV-E circuits only.
Electrical Isolation T1 to T2	20 kΩ minimum

Table 3: Environmental characteristics

Characteristic	Description
Temperature coefficient <18° C or >28° C	
DTM510	0.15 × (specified accuracy) per °C
DTM520	0.1 × (specified accuracy) per °C
Operating temperature	0° to 50° C (32° to 122° F) at 0% to 75% RH
Storage temperature	-20° to 60° C (-4° to 140° F) at 0% to 80% RH
Power requirements	Single standard 9 V battery (ANSI/NEDA 1604A, IEC 6F22)
Battery life (Alkaline)	
DTM510	250 hours
DTM520	90 hours