Common Items – (Scroll down to see specific Thermometers)

1. What do types K, E, J and T designate?

These are designations for common thermocouple types. A thermocouple consists of two wires of different composition. When one end of each wire is in electrical contact at that end of the pair of wires is at a temperature different from that at the other end of the wires an electromotive force is generated that can be used to measure the temperature.

These four types of thermocouples can be used with YMI thermometers. However, YMI only supplies Type K temperature probes. It is necessary to change a setting in the main unit when using any of the other three types of thermocouples.

The materials of these thermocuple types are:
Type K: chromel-alumel
Type E: chromel-constantan
Type J: iron- constantan
Type T: copper-constantan

2. What connector is preferable for Type T (CC: copper -constantan) thermocouple wire? Is reference junction compensation provided with the main unit?

We recommend using a Type T Miniature Plug available from from Omega Engineering and other companies.
The model TX10 has built-in reference junction compensation.

3. Is there any temperature sensor which measures as high as 1372℃?

While Yokogawa does not provide such a temperature sensor, other companies do offer such temperature sensors.

4. Please advise the compensation wire materials and their allowable temperature limits for thermocouple extension use.

Wire material Allowable temp. limits
Heat resistance vinyl: 70℃
Silicone cable: 180℃
Teflon: 260℃

5. Please advise the probe grip material and its allowable temperature limits for 900 Series.

Material: FR PET No. B9015 (glass fiber reinforced polyethylene terephthalate, product of Teijin) Grip allowable temperature limits: 200℃ (for reference, the allowable temperature limits for an old Model 2459 was 60 to 70℃).

6. Is it possible to issue a test certificate for a temperature probe only?

Since the nominal accuracy is guaranteed based on the combination of the main unit and probe, a certificate cannot be provided for the probe only.

7. What do thermocouple tolerance Class 1 and Class 2 mean?

Per JIS C1602-1995 These tolerance classes follow:

* Class 1
more than -40℃、max 375℃：±1.5℃
more than 375℃、max 1000℃：±0.004・|t|（±0.4% of measuring temperature)

* Class 2:
more than -40℃, max +333℃： ±2.5℃
more than 333℃、max 1200℃ ：±0.0075 |t| (±0.75% of measuring temperature)

A thermocouple measures temperature by generating an electromotive force that is based on the difference between the temperature being measured and a reference temperature at the other end of the thermocouple. The tolerance is the maximum deviation from the actual temperature being measured by the thermocouple. There is a Class 3 with a large tolerance then Class 2.

8. What is the allowable temperature limits for Model 245907 cable?

The material is Teflon so that the allowable temperature limit will be around 200℃.

TX10 Series Digital Thermometers

1. How is the type of thermocouple to be used selected?

First turn the power off, then press the TC TYPE key and POWER key simultaneously. The thermocouple type changes with each press of the TC TYPE key.

2. How is the temperature display unit changed to centigrade (℃) from a different temperature unit?

First turn the power off by pressing the POWER key once. Then press the POWER key again for more than 5 seconds to reset the display unit to ℃.

3. How is the auto power off function turned off?

With power off press the POWER key and the DATA HOLD key together to turn this feature off. The unit will then not automatically power off after it is turned on.

4. Is it possible to use the TX10 with other than a Type K thermocouple?

Yes, the TX10 can be used with thermocouple types K, J, E and T. When other than a type K thermocouple is to be used also use the corresponding type of thermocouple connector for Omega or other source.

TM20 Thermo Collector

1. What is the difference between the logging and collector functions?

Logging function: loads the data based on the preset fixed time interval. Collector function: loads the data as required regardless of the time. This function is useful for the temperature measurements from place to place continuously.

2. What does "setting of cycle・period" mean in logging measurements?

As an example, when the measuring cycle is set for one (1) minute and the period is set for one (1) hour, then measurement stops after 61 measurements have been made. When

in the collector function data is measured until the memory is full. When the memory is full the display will not change and measurement will not start even if the MEMORY key is pressed. To restart measuring reset the measured data to less than 20,000. Note that when using the 2-channel setting each channel can measure only 1/2 of the total number of available data points.