



# COMPARATOR FOR INFRARED & PROBE THERMOMETERS



User Manual

Product code:  
**814-132**



## BASIC GUIDE TO USING A COMPARATOR

1. The ETI Comparator consists of an aluminium cap with a heavy, matte black base to provide a stable temperature. It can be used to compare two thermometers to ensure that they are accurate. The Comparator is designed to be used with an ETI Reference thermometer that has a current UKAS Certificate - but may be used with other calibrated thermometers.
2. The Comparator provides the most accurate results when used at ambient temperature, preferably around 22 °C, for the comparison of infrared thermometers. This is to reduce the possibility of a difference in temperature between the inside surface and the base test hole.
3. Any two thermometer probes may be inserted in the base test holes, for comparison between each other. An infrared thermometer may also be pointed down the tube onto the base to compare the infrared thermometer with one or two conventional probes in the base.
4. Ideally, both instruments should be allowed to stabilise, for at least one hour, to ambient temperature and not tested immediately from having been in a cold or warm environment.
5. Probes should be placed fully into the base (they should penetrate by approximately 28 mm) and the instrument(s) reading(s) allowed to stabilise.
6. If you are comparing two probe instruments, the difference in readings should be no more than the sum of the accuracies of each instrument. For example, if you were comparing an ETI Reference Thermometer ( $\pm 0.03$  °C) and an ETI FoodCheck ( $\pm 0.4$  °C), the sum of the accuracies would be  $\pm 0.43$  °C. This is the maximum difference in readings you should notice between the 2 instruments.
7. If you are comparing an infrared thermometer against a calibrated thermometer, the difference in readings should be no more than the sum of the accuracies of each instrument. For example, if you were comparing an ETI Reference Thermometer ( $\pm 0.03$  °C) and an ETI RayTemp 3 ( $\pm 1$  °C), the sum of the accuracies would be  $\pm 1.03$  °C. This is the maximum difference in readings you should notice between the two instruments. There may be the need to adjust the distance from the Comparator to the infrared thermometer in order that the lens is seeing the correct target area.

The Comparator is a basic aid to assist in regular checking of your instruments. It is still the manufacturer's recommendation that you return thermometers for service and calibration against National Standards on an annual basis; or at any time that you suspect problems with your instruments. (UKAS Certification is recommended).

If you have any doubts as to the validity of your measurements, please refer to your Senior Manager who may wish to contact the ETI Technical Department on 01903 202151 or at [technical@etiltd.co.uk](mailto:technical@etiltd.co.uk).

For more information on validating the readings on your infrared thermometer please read our blog: <https://temperature.co.uk/?s=infrared>



A Comparator being used to check the temperature of a RayTemp 3 Infrared thermometer against a Reference thermometer.

**PROMAT (HK) Limited 寶時（香港）有限公司**

☎ : 2661 2392    📞 : 5196 8860    ✉ : [info@promat.hk](mailto:info@promat.hk)    🌐 : <http://www.promat.hk>

