



Topcat Metrology Ltd



“Looking behind the measurement”

www.topcatmetrology.com

Wireless Thermal Threshold Testing Systems

Topcat's wireless thermal threshold testing systems consist of a thoracic band containing an infra-red receiver, power supplies and controller to drive a thermal probe. The small animal version, WTT1, has been validated on cats, dogs, rabbits and sheep, with the thermal probe mounted on the thorax and contained within the band. The large animal version, WTT2 has a plug-in probe which can be mounted anywhere on the test subject (thorax, limb, head or tail) and has duplicate displays and status lights on both sides, enabling readings to be taken easily without disturbing the subject. It can also be used as a bench-mounted system, with a cable to connect to the thermal probe. WTT2 has been validated on horses, donkeys and sheep and is also generally suitable for cows, goats, and camels.

Note: We expect to validate WTT2 for camels in 2013.



The thermal probe consists of a heater mounted in a brass tube (to eliminate hot spots) and a thermal sensor attached with high conductivity epoxy. The probes are available with a variety of heating rates and have been validated on a range of species. Good thermal contact with the skin is provided by an inflated bladder behind the probe, with pressure monitoring by the system before each test.



The systems are operated from a two channel handset; one channel applies the stimulus and the other resets the system for the next test. Threshold temperature is recorded automatically on the digital display on the band and is retained until the "status" button on the handset is pressed. The system is failsafe; the stimulus is removed if the infra-red signal is lost. There is also an electronic safety cut-out in the system if a preset temperature is exceeded.

Technical specification

Rate of temperature rise: 0.8°C/sec for WTT1 with standard probe (other rates available)

0.4°C/sec to 1.6°C/sec for WTT2 (with feedback control)

Thermal cut-out: 55°C (adjustable)

Bladder pressure limits (indicated by LED) 30-60mm Hg

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