

TAFT

Mobile measuring set for testing thermal imagers



Fig. 1. Photo of the TAFT measuring set

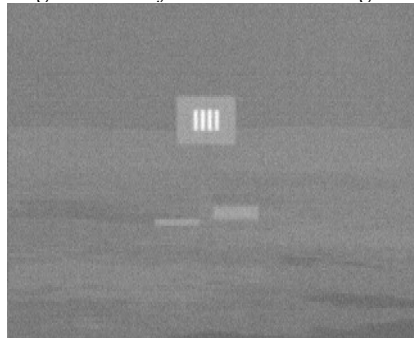


Fig. 2. Image of the TAFT set generated by the tested imager during MRTD measurements

BASIC INFORMATION:

The TAFT measuring set is a mobile variable distance measuring system that project images of reference target (typically 4-bar target) directly to the tested thermal camera. The tested imager generates copies of the projected images. Quality of the images generated by the tested imager is evaluated and its important characteristics are measured. TAFT is typically used for measurement of MRTD (minimal resolvable temperature difference) that is considered as the most important parameter of thermal imagers.

The TAFT test system are targeted for testing thermal imagers at field conditions or at laboratory/depot conditions when a long corridor as a test place can be used. Testing thermal imagers at field/depot conditions is a technical challenge due to significant temporal variations of ambient temperature. The latter variations generate high radiometric offset of the test system and finally lead to high measurement errors. Inframet has solved this problem and accuracy of measurements with TAFT test system at field/depot conditions is almost at the same level as accuracy of measurements with typical DT test system based on reflective collimator carried out at laboratory conditions.

FEATURES:

- Versatile measuring tool that can be used in both field and laboratory applications
- No limitations on optical aperture of tested thermal imagers
- The distance target-imager must be longer than the minimal focusing distance of the tested imager
- Can be packed in a large suitcase and easily transported to any location
- Possible to test thermal imagers from some distance (no necessity to remove imager from a helicopter to test it)
- A few thermal imagers can be tested at the same time
- Enable measurement of the following parameters:
 - ◆ TAFT-A: MRTD
 - ◆ TAFT-B: MRTD, MDTD, MTF, NETD, FPN, non-uniformity, SiTF, distortion, FOV, detection, recognition, identification ranges of some silhouette targets
 - ◆ More parameters can be optionally measured (please contact Inframet)

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SPECIFICATIONS

Parameter	Value
Modules	TCB-6D blackbody/controller, multi-pattern target, SB-3 shield box, transport box/tripod, laptop, TCB Control program,
Target emitting aperture	300×300 mm
Blackbody active aperture	150×150 mm
Differential temperature range	-20°C to +80°C (in comparison to ambient temperature)
Set point and resolution	0.001°C
Response time	10°C step - < 50 sec
Uniformity	< 0.01°C or 0,5% T-Tamb
Blackbody emissivity	0.98±0.01
Temporal stability	±0.003°C for ΔT<10°C
Target emissivity	0.97±0.01
Operating temperature range	5°C to 45°C (no direct wind, sun or rain)
Storage temperature range	5°C to 55°C
Humidity	Up to 90% (non-condensing)
Power	230 V (option 12V)
Accessories	DC 12V/AC 220V converter
Mass	20 kg plus weight of typical laptop (about 3 kg)
Dimensions	600x310x370 mm (blackbody, target, shield) and dimensions of typical laptop (340x250x40)

*specifications are subject to change without prior notice

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