

HEITRONICS Infrared Radiometers

APPLICATION SUMMARY for Atmospheric & Oceanic Sciences Infrared Radiometer also known as IRT, Infrared Thermometer & Pyrometer

- Remote Sensing temperature measurement of Sea Surface, Ice, Snow, Land, Sky & Clouds
- Decades of success on Airborne Platforms, Marine Vessels, Ground Based Systems, etc...
- Clients include many of the world's leading institutions and systems/equipment producers

Application examples:

Surface Temperature for $\leq 5m$ sight path distance

Surface Temperature for $> 5m$ sight path distance

Sky and Cloud Temperature

Air Temperature via CO₂ emissions in long sight path

Weather Protective Housings & Protection Tubes

UAV's and when mounting space is limited

IRT Model

CT15.10, KT15.82, KT19.82

CT15.85, KT15.85, KT19.85

CT09, CT15, KT15, KT19

KT19.99

CT09, CT15, KT15

CT09 or KT15

Spectral Range

8 to 14 μm

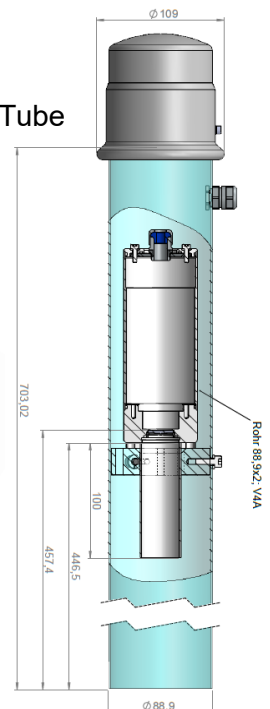
9.6 to 11.5 μm

Per application

14 to 16 μm

Per application

Per application



<u>IRT Selection Criteria includes:</u>	<u>IRT Model</u>	<u>Spectral Range</u>
Optimal NETD temperature resolution	CT15.10, KT15.82, KT19.82	8 to 14 μm
Maximize apparent emissivity of sea surface	CT15.85, KT15.85, KT19.85	9.6 to 11.5 μm
Minimize water emissivity change w/r/t incidence angle	CT15.85, KT15.85, KT19.85	9.6 to 11.5 μm
Lowest cost / Highest Cost	CT09.10 / KT19.85	8-14 μm / 9.6 - 11.5 μm
Lowest power required / Highest power required For	CT09 / KT19	Per application
UAV's and when mounting space is limited	CT09 or KT15	Per application

HEITRONICS infrared radiometer features include.....

- -25 °C or -50 °C are standard low end of range; -100 °C is optional; output in °C, K, °F or non-linear RAD
- Full angle FOV's $\geq 3^\circ$ and, close focus narrow FOV's available for clearing narrow equipment or enclosure apertures
- Accuracy spec is [0.7% (Target Temperature - IRT Housing Temperature) + 0.5 °C] for CT15, KT15 and KT19
- Optional HEITRONICS Certificate of Calibration to characterize Expanded Uncertainty to as low as ~ 0.2 °C for temperatures ≥ -20 °C.
- Optional PTB NMI Certificate of Calibration to characterize Expanded Uncertainty to as low as ~ 0.1 °C for temperatures ≥ -50 °C.
- NETD temperature resolution as low as ~0.03 °C, depending on IRT configuration and settings
- Exceptional long term stability and stability of measurement when the housing temperature of the IRT is changing

Weather Protective Housing, polymer coated aluminum, adjustable-slide top cover, internal heater and mounting bracket options. For CT09 and KT15.



TRT Series
Transfer Standards
for Cal Labs

Model ME30
Blackbody Calibrator
Emissivity = 0.9994
-20 to 90 °C span

