

Application Summary

Non-contact temperature measurement for Ocean & Atmospheric Science using Infrared Radiation Thermometers, also called.... IRT's, Radiometers, Pyrometers

- Temperature measurement of.... Sea, Snow, Ice & Land Surfaces and 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

IRT Model

CT15.10, KT15.82, KT19.82

Spectral Range

8 to 14 μm

Surface Temperature for $> 5m$ sight path distance

CT15.85, KT15.85, KT19.85

9.6 to 11.5 μm

Sky and Cloud Temperature

CT09, CT15, KT15, KT19

Per application

Air Temperature via CO₂ emissions in long sight path

KT19.99

14 to 16 μm

Weather protection tube

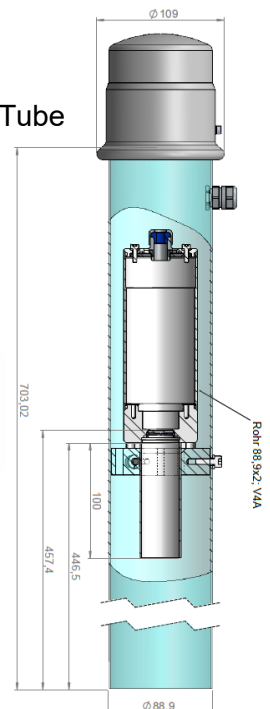
CT15

Per application

UAV's and when mounting space is limited

CT09 or KT15

Per application



IRT Selection Criteria includes:

IRT Model

Spectral Range

| | | |
|---|---------------------------|---|
| 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 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 | CT09 / KT19 | |
| For UAV's and when mounting space is limited | CT09 or KT15 | Per application |

HEITRONICS infrared radiation thermometer features include.....

- -25 °C or -50 °C are standard low end of scale; -100 °C is optional; output in °C, K, °F or non-linear RAD
- Full angle FOV's available from approx. 3° and, close focus narrow FOV's available for clearing equipment apertures
- Accuracy spec is [0.7%(Target Temperature - IRT Housing Temperature) + 0.5 °C] for KT15, KT19 and CT15
- Optional HEITRONICS Certificate of Calibration to characterize measurement Uncertainty (k=2) as low as ~ 0.2 °C
- Optional PTB Certificate of Calibration to characterize Uncertainty (k=2) on limited configurations as low as ~ 0.1 °C
- NETD temperature resolution as low as ~0.03 °C, depending on thermometer configuration and settings
- Exceptional long term stability and stability of measurement when the housing temperature of the IRT is changed

ME30
Blackbody
Calibration
Source



TRT
Transfer
Standard
for Cal Labs

HEITRONICS
Infrarot Messtechnik

Infrared Radiation Thermometers
Transfer Standards
Pyrometers
Blackbodies

www.heitronics.com