



THERMAL IMAGERS THAT ACCURATELY MEASURE TEMPERATURES

There are two common types of thermal imagers:

- 1) Those which produce a thermal image of a scene as a picture or video – known as Non-Radiometric Thermal Imagers. These are commonly used to detect the presence of something hot or cold in a scene like a deer at the side of a road, an intruder or the presence of a hot area somewhere on an object.
- 2) Those which produce a thermal image of a scene as a picture or video and accurately measure temperatures anywhere within that thermal scene – known as Radiometric Thermal Imagers. These are commonly used for automation, process control or quality verification.

Many imagers which are described as Radiometric are only calibrated at one central point in the thermal image and make assumptions about temperature measurement accuracy elsewhere in the scene. It might be argued that one accurate point in the scene makes a thermal imager Radiometric, that isn't what most customers expect.

Here at AMETEK Land we pride ourselves on accurate temperature measurement and we go to extra lengths to design and test our Radiometric Thermal Imagers to verify and document that they accurately measure temperatures across the entire scene.

ARC THERMAL IMAGER



Thermal Imager Certificate of Conformity

Below is an example of a standard Certificate of Conformity that we supply with each AMETEK Land thermal imager.

Not only does the certificate show center accuracy, but also areas out towards the four corners of the scene. After paying a premium for a Radiometric Thermal Imager, you have the right to demand that it accurately measures temperatures.

Instrument Type : ARC 8 11 500 LF
 Instrument Serial Number :
 Country of Origin : England

Factory Calibration Settings

	Calibration setting (°C)*	Reference standard used
Temperature - Low	9.8	P80P 12102 - 1
Temperature - Medium	248.8	C33 S/N: 20001027
Temperature - High	501.1	C33 S/N: 20001027

*Set with nominal zero error at the temperatures listed. To determine absolute accuracy, measurement uncertainties must also be considered.

Instrument Specification

Range	Wavelength	Field of View (Horizontal)	Focus Range*	Ambient Temperature**	Accuracy**	Frame rate
0 to 500°C	8-14µm	11°	0.5m>infinity	-20 to 60°C	±2% / ±2°C	7.5Hz

*Adjustable **5-95% of range **Specified

Instrument Calibration Results

Image Uniformity Error °C

-1.0	-2.2
REF	
-2.7	+1.7

Reference temperature (°C) = 248.8

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NEED ADDITIONAL SERVICES?

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EXAMPLE OF ARC VIEWER

