What Specs *Really* Mean?

Are All 3.5” LCD’s Created Equal?

- The most important feature of a Thermal Imager is to show the IR image!
- Fluke’s Thermal Image size is ~40% larger than our competitors similar model
  - As always Fluke specs conservatively:
    - Total LCD diagonal is 3.75”
    - Usable image diagonal is almost 3.6”
    - The menu bar only shows up when using the menu
  - Competitor's total LCD diagonal is 3.5”
    - Usable image diagonal is 3.0”
- Fluke’s display is widescreen for easier viewing
- Fluke’s display resolution is twice competitor's display resolution
  - 640x480 vs. 320x240

Field of View and IFOV

- What is FOV and IFOV?
  - The level of detail you can see at a certain distance is described by the IFOV (Instantaneous Field of View) specification
  - Not only the detector determines the IFOV but also the optics
  - The competitor's similar model IFOV is 3.64mRad
  - All Fluke Ti-series have a IFOV of 2.5mRad
  - This means that at the same distance the Fluke Ti-series see smaller details for better resolution and detail

- **RESNET Proposed SPEC:**
  - The FOV should be capable of showing at least two wall-framing cavities across while still being able to resolve an individual framing member. In order to accomplish this prerequisite, a FOV of approximately 20 degrees is suggested.
  - The detector and lens combination of the infrared imaging system must have sufficient resolution to resolve framing members and the small void areas or wall cavities. A 3mRad IFOV is sufficient for this purpose

How Important is the "Accuracy" Spec?

- RESNET proposed spec does **not** address accuracy, as it is not important for this type of work
- For scientific research we wouldn't recommend a 5% accuracy Imager but for most electrical, industrial and buildings applications accuracy of a thermal imager is not as important as thermal sensitivity, ease of use and rugged design.
- The vast majority of customers look at temperature differences vs. absolute temperatures
  - For this the accuracy doesn't really matter much as all measurement points on the imager will have the same accuracy
- Measuring absolute temperature accurately from a distance is very difficult
  - It is dangerous to assume that the temperature you measure with a 2% accuracy Thermal Imager is accurate within 2%
    * A lot of variables come into play (focus, wind/air movement, reflection, emissivity, distance to target (spot size-IFOV), etc. etc.
    * The Imager accuracy specification is only part of the inaccuracy

How important is the temperature range ?

- Most customers do not need to measure beyond 212ºF for a weatherization or building diagnostic application
- More important than extended temperatures might be the minimum span of the Thermal Imager
  - A smaller minimal span allows the user to get a better image (more contrast)
    * Competitor's similar model has a minimal span of 10ºC in auto mode and 4ºC in manual mode
    * The Fluke TiR has a minimal span of 5ºC in auto mode and 2.5º C in manual mode

What is the Total Cost of Ownership?

- Fluke offers a 2 year warranty standard on all models
- Fluke cameras are proudly Made in the USA
- Fluke offers complete Analysis and Reporting software free of charge
  - We do not charge for seat or license fees
  - Upgrades are always free
  - Competitor may charge up to $3000