Applications
The infrared temperature measurement is fast and easy. It works best for fast readings, relative readings (one to another or the same one at different times), or temperature readings of hard to reach places. The following are some applications:
- Heating and air conditioning where fast and/or easy measurement is most important.
- Motor bearings: high temperature can indicate poor power line connections: a bad connection may reflect enough energy off the surface to affect measurements.
- Motor bearings: high temperature can indicate a toy or a shiny metal surface, the infrared energy of your face can be much lower. If the emissivity is low, the temperature being measured. The temperature sensor exactly balances the loss of energy collected from a given area.
- Auto off disabled when data logging with the DL2. Auto off is disabled. It is particularly useful when you aren’t able to touch the surface to be measured.
- Outdoor: outdoor measurements, for use with DMMs with industry standard jacks.
- Cone of viewability: the smaller the area. The further away, the larger the area measured.
- IR temperature measurement: When something is hot, it radiates infrared (IR) energy. The hotter it is, the more infrared energy. If there’s enough of it, you can feel it. The ATIR3 infrared accessory head collects infrared energy from a one-piece infrared temperature meter. Use the optional Fieldpiece ADLS2 deluxe silicone test leads or the AHDL1 adapter handle with the ATIR3 for use with DMMs with industry standard jacks.

Auto off
When the ATIR3 is turned on and the auto off is switched on, you must hold MEAS to read temperature.
When auto off is switched off, the temperature will continue to be read until you move the power switch off. The MEAS button does nothing when auto off is disabled. It is particularly useful to have auto off disabled when data logging with the DL2.

Cone of viewability
The ATIR3 takes it’s measurement from a circle of a size determined by a simple ratio of 8:1. The diameter of this circle is 1/8 the distance between the target and the tip of the ATIR3. For example, if you’re standing 16 feet from your target, the size of the circle you’re taking the average temperature of will be 2 feet wide.

Specifications
Conversion rate: 1mVDC per 1ºF
Resolution: 0.1ºF for meters with 0.1mVDC
Power: Standard 9V battery
LED indication: green for “On”, red for low battery
Operating temp: 32ºF to 122ºF at <75%RH
Storage temp: -4ºF to 140ºF at <80%RH with battery removed
Sensor: Thermopile
Temperature range: 0ºF to 752ºF
Accuracy: Whichever is greater. At 73ºF ± 5ºF at <90%RH ±2.0%rdg or 4ºF, 32ºF to 160ºF ±3.0%rdg or 5.5ºF, 0ºF to 31ºF, 161ºF to 752ºF
Field of view: 8:1

Service
Any defective ATIR3 should be returned to Fieldpiece Instruments for warranty service along with proof of purchase. Call Fieldpiece for a return material authorization (RMA). For out of warranty service, send the ATIR3 along with a check or money order for $30.00 to Fieldpiece. Your ATIR3 will be repaired or replaced at Fieldpiece’s option.

Warranty
The product is warranted to the original purchaser against defects in material or workmanship for a period of one (1) year from the date of purchase. During the warranty period, Fieldpiece Instruments will, at its option, replace or repair the defective unit.
This warranty does not apply to defects resulting from abuse, neglect, accident, unauthorized repair, alteration, or unreasonable use of the instrument. Any implied warranty arising out of the sale of Fieldpiece’s products including but not limited to fitness for a particular purpose, are limited to the above. Fieldpiece shall not be liable for incidental or consequential damages.

“Emissivity” of the target surface also affects the temperature reading. For a given temperature, the higher the emissivity, the higher the reading. The lower the emissivity, the lower the reading.
Emissivity of a surface indicates how easy it is for the infrared to get out. Emissivity for a dull, shiny surface is high (nearly 100%) so it’s easy for the infrared to get out. Emissivity for a shiny surface can be much lower. If the emissivity is low, the measured temperature will be lower than actual. For relative readings of the same kind of surface, this isn’t a problem. For some applications, it may be necessary to spray dull, black paint on the target to insure a more accurate reading.

For best accuracy use contact sensors (thermocouples, thermistors, etc.) anytime you take a temperature measurement. Infrared instruments should only be used when you aren’t able to touch the surface to be measured.

Description
The ATIR3 collects infrared energy and converts it to a millivolt DC signal that is proportional to the temperature being measured. The temperature measured will be the average of all the temperatures in the cone of viewability. The closer you are to the target, the smaller the area. The further away, the larger the area measured.
The ATIR3 converts the Fieldpiece “Stick” series meter, DL2 data logger, and EHD11 electronic handle to a one-piece infrared temperature meter. Use the optional Fieldpiece ADLS2 deluxe silicone test leads or the AHDL1 adapter handle with the ATIR3 for use with DMMs with industry standard jacks.