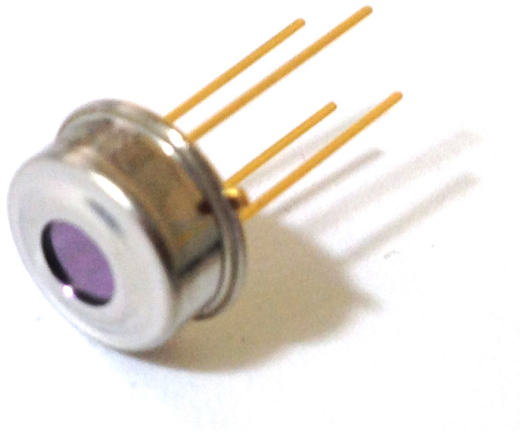
What is a MLX90614 IR non-contact thermometer?



The MLX90614 is a sensor that can tell the temperature of something without touching it. By reading the infrared light coming off an object, the sensor can sense between -95 and 720°f (-70 to 382.2°C) with 17bit resolution. That degree of precision means it can tell the difference between 25ºC and 25.02ºC without coming in contact. (ie, 17bits should give us about 0.0034ºC resolution).

What is infrared light?
Infrared (IR) is invisible radiant energy, electromagnetic radiation with longer wavelengths than those of visible light, extending from the nominal red edge of the visible spectrum at 700 nanometers (frequency 430 THz) to 1 mm (300 GHz)[1] (although people can see infrared up to at least 1050 nm in experiments[2][3][4][5]). Most of the thermal radiation emitted by objects near room temperature is infrared.

Light comparison[9]			
Name	**Wavelength**	**Frequency (Hz)**	**Photon Energy (eV)**
Gamma ray	less than 0.01 nm	more than 30 EHz	124 keV – 300+ GeV
X-Ray	0.01 nm – 10 nm	30 EHz – 30 PHz	124 eV – 124 keV
Ultraviolet	10 nm – 380 nm	30 PHz – 790 THz	3.3 eV – 124 eV
Visible	380 nm–700 nm	790 THz – 430 THz	1.7 eV – 3.3 eV
Infrared	700 nm – 1 mm	430 THz – 300 GHz	1.24 meV – 1.7 eV
Microwave	1 mm – 1 meter	300 GHz – 300 MHz	1.24 μeV – 1.24 meV
Radio	1 m – 100,000 km	300 MHz – 3 Hz	12.4 feV – 1.24 meV