

What is a pyrometer?

A **pyrometer** is an optical instrument that remotely converts the energy emitted by a hot target into a numerical value, known as the target temperature. Each hot target emits infrared radiation, which, within a specific solid angle created by the pyrometer's optical system, is filtered through a spectral filter before reaching the photodetector. The photodetector converts this radiation into an electrical signal (see pyrometer layout below). The controller receives this electrical signal and uses a calibration graph stored in memory to convert it into a temperature reading.

The **measurement spot** size depends on the relationship between the working distance and the focal length of the objective, as well as the diameter of the photodetector diaphragm.

The **spectral range** of the pyrometer is defined by the spectral transition of the filter, which the **photodetector** must cover.

The **aperture diaphragm** manages the temperature range tuning, and the **pyrometer can be aimed** at a hot target using either a visual telescope or a laser.

