

Typical application fields are:

NonDispersive Infrared (NDIR) gas analysis

Due to its inherent properties the pyroelectric detector produces a signal proportional to the incoming modulated IR radiation. A Narrow Band Pass (NBP) filter with a wavelength that matches the absorption wavelength of the target gas (4.26 μm for CO₂) is integrated in the cap of this detector. This is needed to identify and to quantify the gas. If a fraction of the radiation in the optical path is absorbed by the present gas (for example CO₂), the detector signal will be attenuated accordingly. Often a dual channel detector with a Reference NBP filter (for example 3.95 μm – here no CO₂ absorption is appearing) is used for comparison to compensate other signal variation effects (like pollution, aging, temperature drift, signal drift or the IR source). Contact your InfraTec Representative for additional details.

A typical HC flame is emitting radiation between 4.0-4.6 μm with a flicker frequency of about 10 Hz. The radiation of the flame is detected by a single channel detector (for example LME-345) with an integrated NBP (around 4.3 μm). To distinguish the flame from sun light and arc welding light often two additional single channel detectors with special NBP's or a multichannel detector (LMM-244) with different narrow bandpass filters are used

