

Influence of backfill gases on the performance of IR detectors & emitters

Micro-Hybrid IR components are manufactured in a unique process. Our IR emitters and detectors are therefore hermetically sealed and can be filled with different gases.

These gases have different effects on different performance characteristics:

Thermopile detectors

Filling gas	Sensitivity	Time constant
N ₂	100 %	100 %
Kr	180 %	180 %
Ar	128 %	128 %
Xe	223 %	223 %
Ne	62 %	62 %

IR sources

Filling gas	Temperature increase	Reduction of input power
N ₂	100 %	100 %
Kr	160 %	160 %

ADVANTAGES OF BACKFILL GASES WITH IR DETECTORS AND IR SOURCES:

- Termination against external environment (sealing against atmospheric disturbances such as air, humidity, etc.)
- Adaptation of performance to application (detectivity, time, input power or spectral behavior)
- No ventilation necessary