

Infrared standard filters for NDIR applications



The **filters of the detectors** determine the frequency range of the infrared radiation which is detected by the sensitive element of the sensor.

The wavelength range of the filters is mainly defined by the target application. The filters are primarily characterized by their centre wavelength and the full width at half maximum. Not all filters can be combined with all detectors due to their different geometrical dimensions and environmental durability. Please confirm your selected filters with Micro-Hybrid before you place your final order. The following chart presents an overview of our standard filters and their specific characteristics (out of band blocking: 400 nm – 11 µm < 0.1 %).

Filters according to customer specifications

Micro-Hybrid offers the possibility to manufacture detectors with customer specific filters. The following points have to be considered:

- CWL
- HBW
- Tolerance
- Slope
- Minimum needed transmission/material
- Operating wavelength/blocking range

Centre wavelength (CWL) [nm]	Centre wavelength tolerance [nm]	Half band-width [nm]	Half bandwidth tolerance [nm]	Transmission	Code	Application
3400	± 20	140	± 20	$T_{max} > 80 \%$	G2	HC
3910	± 28	70	± 10	$T_{max} > 70 \%$	D2	Reference
4265	± 25	120	± 10	$T_{max} > 70 \%$	E1	CO ₂ main band
4415	± 30	60	± 10	$T_{max} > 70 \%$	E2	CO ₂ side band
4525	± 20	83	± 6	$T_{max} > 70 \%$	K1	N ₂ O
4650	± 40	180	± 20	$T_{max} > 70 \%$	F1	CO
5060	± 25	100	± 15	$T_{max} > 70 \%$	D5	Reference
5300	± 30	200	± 20	$T_{max} > 70 \%$	L1	NO
6580	± 40	200	± 35	$T_{max} > 70 \%$	I1	H ₂ O
7300	± 50	180	± 20	$T_{max} > 80 \%$	H1	SO ₂
7665	± 77	242	± 40	$T_{max} > 70 \%$	U1	Halothane
8224	± 40	240	± 24	$T_{max} > 70 \%$	V1	Desflurane
8550	± 40	180	± 18	$T_{max} > 70 \%$	W1	Isoflurane
8620	± 45	540	± 45	$T_{max} > 70 \%$	X1	xFluranes
9663	± 80	240	± 40	$T_{max} > 70 \%$	M1	OH
10540	± 100	690	± 100	$T_{max} > 70 \%$	J1	SF ₆

The product code of the detector is created in the following way:

Sensor type (AA) – Number of channels (Bx) – Chip type (CCCC) – Package (D) – Aperture (EEE) – Thermistor (F) – Backfill gas (GG) – Filters (H/H/H/H) – Extended temperature range (III)

For example: TS4 x Q200B-A-S1.5-1-N2-E1 / F1 / G1 / D2

The sensor type, the number of channels, the chip type, package and aperture are defined in the additional datasheets of the detectors.

All rights reserved. All information in this data sheet are based on latest knowledge, results of practical experience and tests carried out. Earlier specifications are hereby invalid. All specifications – technical included – are subject to change without notice. It is the customer’s responsibility to ensure that the performance of the product is suitable for customer’s specific application. No liability is accepted for indirect damage, in particular for the use or inability to use the product. Any liability we may have is limited to the value of the product itself.