

HIM Series

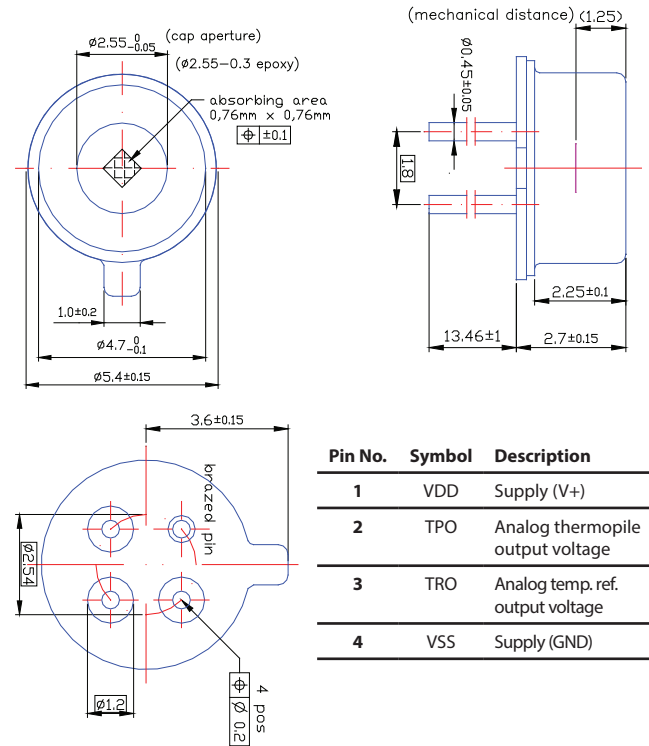
Thermopile Integrated Modules for Gas Analysis and Temperature Measurement

The HIM Series includes a thermopile sensor chip (optional TP1, TP1c or TP2) and an analog processing circuit in a small TO-46 metal housing with 4 pins.

The sensor provides at analog outputs the amplified thermopile voltage and an integrated temperature reference. The gain of the high-accuracy amplifier is preset to 4300 or 2150. The sensitivity of the temperature reference is typically 15.5mV/°C.

For gas detection, the sensors can be equipped with narrow band filters with gas specific center wavelength (CWL) and small half power bandwidth (HPBW).

Dimensions and PIN-Configuration



Characteristics

	TP1	TP1c	TP2	Unit
Element size	0.61 ²	0.76 ²	1.2 ²	mm ²
Time constant sensor chip	5	10	10	ms
Sensitivity ^{a)}	58	52	44	V/W
Resistance R _{TP} ^{b)}	86	75	84	kOhm
Voltage response ^{a)}	22	30	63	Vmm ² /W
Field of view	70	80	100	°

a) Without filter, T_{obj} = 100°C, DC
b) At T_{amb} = 25°C

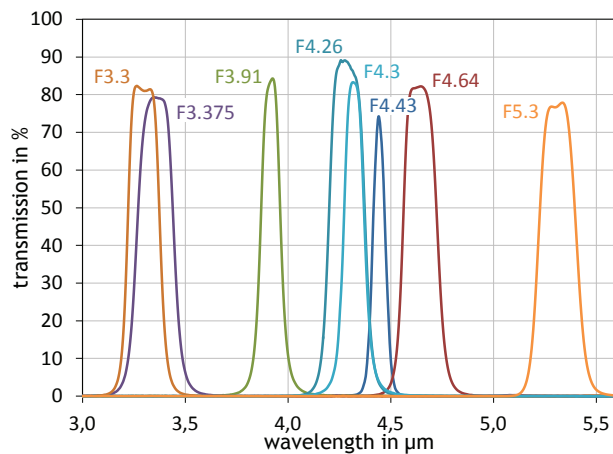
Characteristics Module

	HIM Jx2	Unit
Supply voltage	3 ... 5	V
Supply current	1	mA
Max. startup time after POR	0.5	s
PSRR	>40	dB
Output voltage range	0.15.. (VDD-0.15)	V
Zero input sensor signal	1.25	V
Sensor gain preset	4300 or 2150	V/V
Temp. ref. voltage ^{a)}	1.45	V
Sensitivity temp. ref.	15.5	mV/°C
Field of view ^{b)}	>70	°
Operating temperature	-20 ... 120	°C
Storage temperature	-40 ... 125	°C

a) T_{amb} = 25°C
b) Depending on the thermopile chip element size

Filter Options Gas Detection

Gas	REF	CO ₂	HC	CO	NO
	F3.91/90	F4.26/180	F3.3/160	F4.64/180	F5.3/180
Filter (CWL/HPBW)		F4.30/110	F3.37/190		
		F4.43/60			



Ordering Information

HIM	Heimann Integrated Module with analog outputs
J	Standard type without optics
1, 1c, 2	Sensor Chip (TP1, TP1c, TP2)
Fx	Filter type (F5.5, F8-14, F4.26/180)
Gx	Gain preset (G= 2150 or 4300)

E.g.: HIM J1C2 F4.26/180 G2150 (gas detection)
HIM J12 F8-14 (temperature sensing)