

# Datasheet Dual Integrated Sensor Type HIS E222 F1 F2 Gx



## Features and Benefits

- Dual-channel thermopile sensor with integrated ASIC
- 4-pin metal housing of size TO-5 / TO-39
- 2 separate outputs supply analogue thermopile voltages
- gain preset of selectable factor 4300 or 2150
- Wide operating range 2.7V to 5.5V , -40°C to 120°C
- Large variety of available filter types for different applications

## Ordering Information

HIS -> Heimann thermopile sensor and ASIC in a TO-5 housing  
 E222 -> „E“ dual cap TO39 ; „22“ 2x sensor chip TP2 ; „2“ ASIC STP1  
 F1 -> Filter 1 : application-specific filter type (list)  
 F2 -> Filter 2 : application-specific filter type (list)  
 Gx -> sensor gain preset G2150 or G4300

e.g. HIS E222 F3.91/90 F4.26/180 G4300

Filter Selection		
<i>Filter Type</i>	<i>Application</i>	<i>Specification</i>
F4.26-180	CO2 gas detection	NBP CWL 4.26µm HPB 180nm
F4.27-90	CO2 gas detection	NBP CWL 4.27µm HPB 90nm
F4.43-60	CO2 gas detection	NBP CWL 4.43µm HPB 60nm
F4.64-180	CO gas detection	NBP CWL 4.64µm HPB 180nm
F3.30-160	HC gas detection	NBP CWL 3.30µm HPB 160nm
F3.37-190	HC gas detection	NBP CWL 3.375µm HPB 190nm
F3.91-90	gas reference	NBP CWL 3.91µm HPB 90nm
F5.30-180	NOx gas detection	NBP CWL 5.30µm HPB 180nm

Please contact Heimann customer service for special filter requirements.

## Operating Conditions

<i>Parameter</i>	<i>Typical Value</i>	<i>Unit</i>	<i>Condition</i>
Supply voltage VDD	(2.7).. 3 .. 5..(5.5)	V	+Vs
Supply voltage VSS	0	V	-Vs , Ground
Supply current	2	mA	Without load
Operating temperature	-40.. 120	°C	

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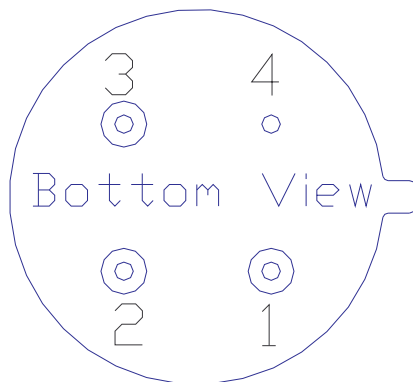
## Electrical Specification

Parameter	Typical Value	Unit	Condition
Absorbing area	1.2 x 1.2	mm <sup>2</sup>	Thermopile Chip
Voltage Sensitivity	38	V/W	Thermopile Chip
Voltage response	55	Vmm <sup>2</sup> /W	Thermopile Chip
Time constant	8	ms	
Open loop gain	90	dB	ASIC
PSRR	>40	dB	
Output voltage range	0.15 .. (VDD-0.15)	V	
Noise voltage	45	nV/√Hz	Input related
Zero input sensor signal	1.25	V	Sensor output TPO
Sensor gain	4300 or 2150	V/V	preset

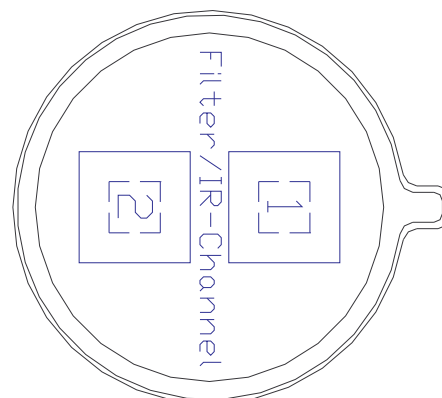
## Pin Assignment

Pin No	Symbol	Description
1	TPO1	Analog output voltage sensor 1 – IR-channel 1 – Filter 1
2	TPO2	Analog output voltage sensor 2 – IR-channel 2 – Filter 2
3	VDD	Positive supply voltage
4	VSS	Negative supply voltage / Ground (0V)

**Bottom View**



**Top View**



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