Datasheet
Thermopile Module With Mirror Optics
Type HTIA Dx Tx

General information about HTIA models are described in

"Application Note Thermopile Module Analog" .

Features and Benefits

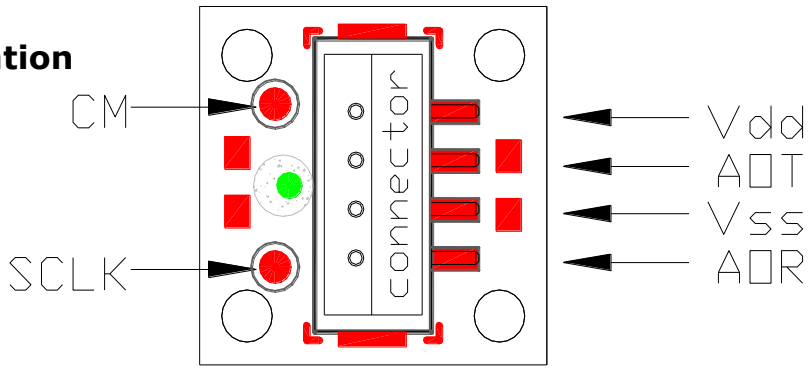
- PCB mounted with connector
- 5V supply voltage
- 2 analog voltage outputs (thermopile sensor and temperature reference)
- Low response time of 5ms
- Integrated mirror optics (CPC)
- Absorber size 0.61mm x 0.61mm
- Factory calibrated to default object temperature range upto 300°C
- IR transmission >70% % within wavelength range 7.5µm to 13µm
- Optional with internal temperature compensation (type HTIA DC)

Ordering Information

HTIA -> Heimann thermopile sensor and integrated circuit on pcb
Dx -> cap TO39 for integrated mirror optics , infrared filter
x->„U" sensor signal not compensated ;
x->„C" sensor signal internal compensated
Tx -> object temperature upper limit

Sample: HTIA DU T100 , without internal compensation , object temperature range up to 100°C within output voltage range

Pin Configuration



Symbol	*Description*
VDD	Positive supply voltage
VSS	Negative supply voltage / Ground (0V)
AOT	Analogue output voltage Thermopile sensor
AOR	Analogue output voltage Temperature reference
SCLK CM	Programming pads for factory setting

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Electrical and Operating Conditions

Parameter	*Typical Value*	*Unit*	*Condition*
Supply voltage VDD	4.5 .. 5 .. 5.5	V	+Vs
Supply voltage VSS	0	V	-Vs , ground
Supply current	1 .. 1.7 .. 2.2	mA	without load
Output voltage range	0.3 .. VDD-0.3	V	
Start up time after POR	Max. 0.5	sec	electrical start up
Output resistance	< 10	Ohm	f < 100Hz
Output load	> 20	kOhm	for optimal operation
Sensor absorbing area	0.61 x 0.61	mm²	sensor type TP1
Object temperature range	-30 .. +300	°C	factory default setting
Sensor amplification	150 .. 5500		output AOT, factory default
Response time sensor	5	msec	t/T = 63%
Temperature reference voltage at 25°C	1.225	V	output AOR, factory default
Sensitivity temperature reference	15 (10 .. 16)	mV/°C	output AOR ; factory default type "U" (type "C")
Operating temperature	-20.. 120	°C	

Infrared Transmission

parameter	*minimum*	*typical*	*maximum*
Cut on wavelength	5.2µm 6.2µm	5.5µm 6.6µm	5.8µm 7.0µm
Average transmission from 7.5µm to 13.5µm	70%		
Average transmission from visual to 5µm			0.5%

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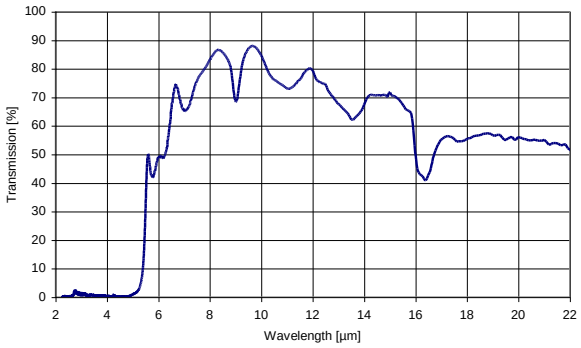
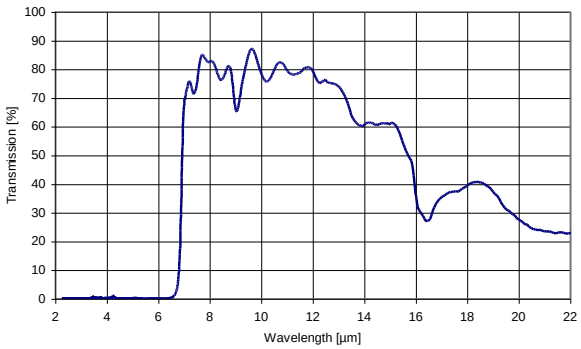
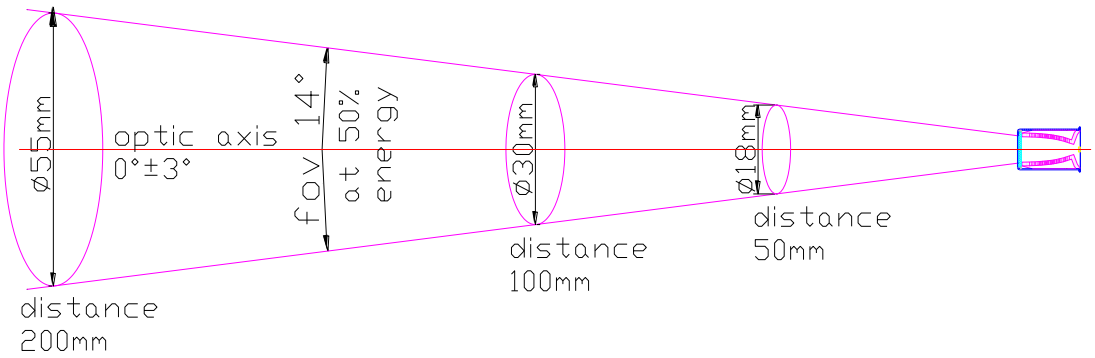
Sample Curve Transmission

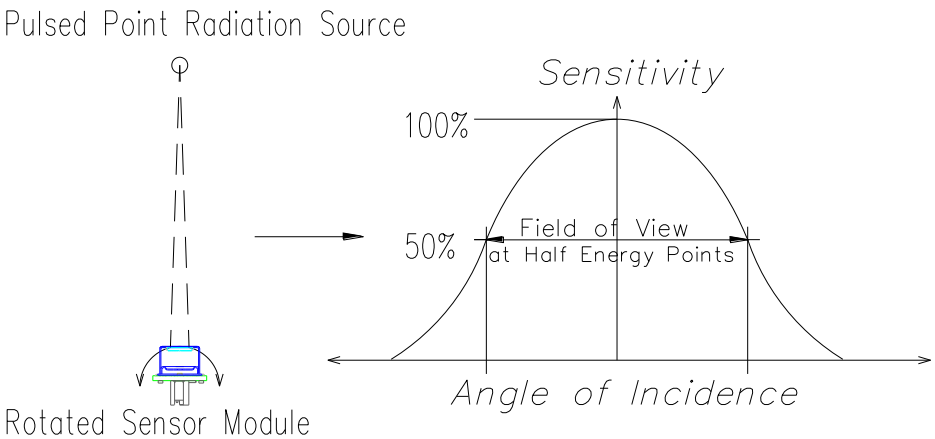




Field of View

parameter	*limits*			*unit*	*conditions*
	Min	*Typ*	*Max*		
field of view	12	14	16	degree	50% energy points





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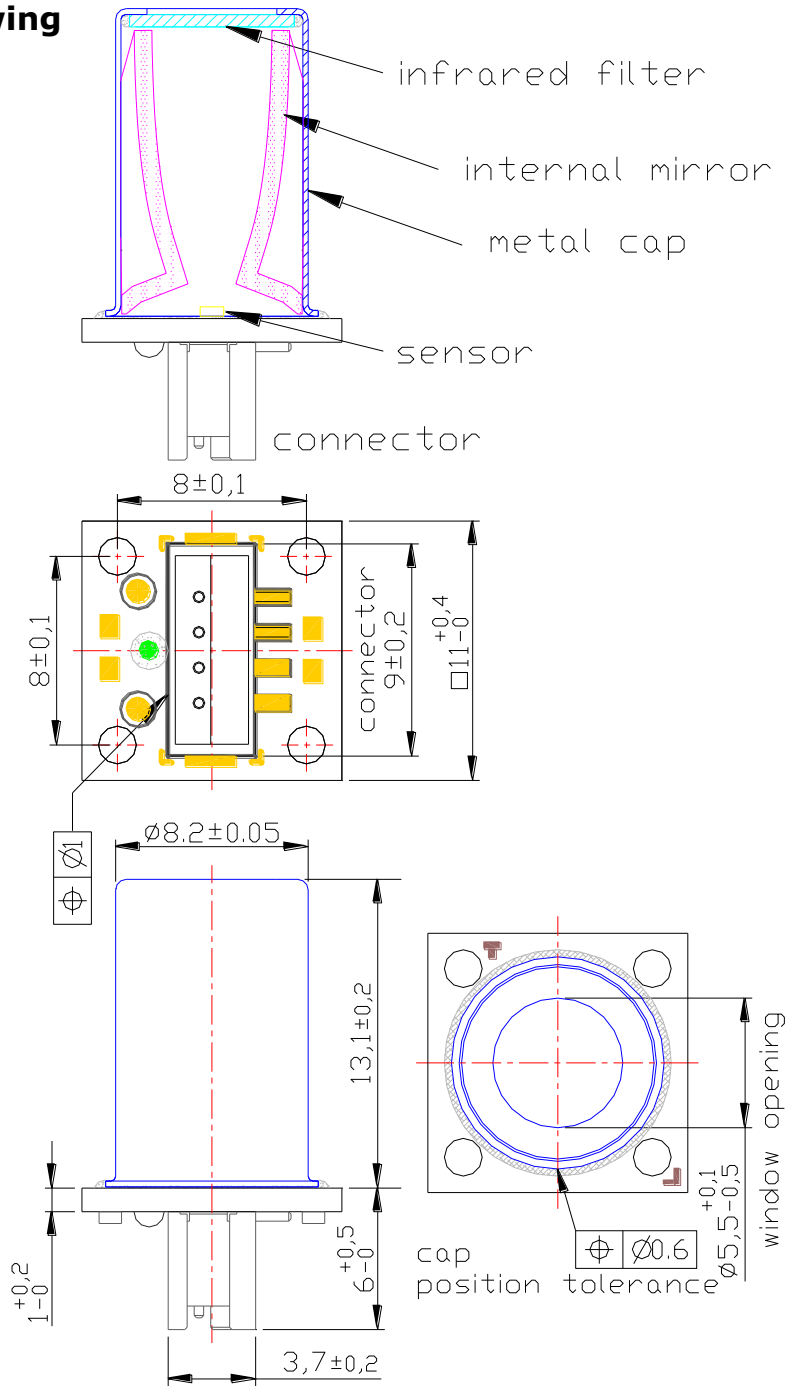
Dimensional Drawing



Liability

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