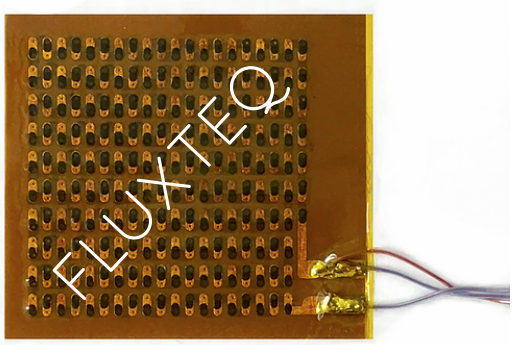
FLUXTEQ

PHFS-01

PHFS-01 Heat Flux Sensor Description

The PHFS-01 is the first low-cost heat flux sensor on the market. It has minimal thickness, while still maintaining excellent sensitivity. The heat flux sensor is flexible enough to be easily attached to round surfaces.



Potential Applications

- R&D of heat transfer components
- Energy efficiency of thermal systems
- Heat transfer education
- Wearable technology that detects calorie burn

Heat Flux Sensor Specifications

Sensor Type	Differential-Temperature Thermopile
Encapsulation Material	Kapton (polyimide)
Nominal Sensitivity	Approx. 4.5 mV/(W/cm^2)
Sensor Thickness (t)	Approx. 260 microns
Specific Thermal Resistivity	Approx. 0.9 K/(kW/m^2)
Absolute PHFS Thermal Resistance	Approx. 1.0 K/W
Heat Flux Range	+/- 150 kW/m^2
Temperature Range*	-50°C to 120°C
Response Time**	Approx. 0.6 seconds
Sensor Surface Thermocouple	Type-T
Sensing Area Dimensions	a = 2.54 cm, b = 2.54 cm
Total Sensor Dimensions	W = 3.0 cm, H = 3.0 cm
Sensing Area	6.45 cm^2
Total Sensor Area	9.0 cm^2

*Temperature range may be larger than specified. Further testing is being conducted.
**Response time is time for one time constant or 63% of sensor output signal to a heat flux step input