Exceeding the maximum recommended heat flux can result in a large enough temperature rise to cause delamination of the Kapton® bonding material. The given maximum values assume a 38°C (100°F) ambient.

Nominal sensitivity is ±10%. Sensitivity is supplied with unit.

<table>
<thead>
<tr>
<th>Model</th>
<th>Nominal Sensitivity (µV/Btu/Ft²-Hr)</th>
<th>*Max Rec’d Heat Flux (Btu/Ft²-Hr)</th>
<th>Built-in T/C Type K</th>
<th>Resp. Time (sec)</th>
<th>Thermal Capacitance (Btu per °F)</th>
<th>Thermal Resistance (*F per Btu/Ft²-Hr)</th>
<th>Nominal Thickness (mm (inches))</th>
</tr>
</thead>
<tbody>
<tr>
<td>HFS-3</td>
<td>3.0</td>
<td>30,000</td>
<td>YES</td>
<td>0.60</td>
<td>0.02</td>
<td>0.01</td>
<td>0.18 (0.007)</td>
</tr>
<tr>
<td>HFS-4</td>
<td>6.5</td>
<td>30,000</td>
<td>YES</td>
<td>0.60</td>
<td>0.02</td>
<td>0.01</td>
<td>0.18 (0.007)</td>
</tr>
</tbody>
</table>

* Exceeding the maximum recommended heat flux can result in a large enough temperature rise to cause delamination of the Kapton® bonding material. The given maximum values assume a 38°C (100°F) ambient.

† Nominal sensitivity is ±10%. Sensitivity is supplied with unit.

Each HFS series heat flux sensor functions as a self-generating thermopile transducer. It requires no special wiring, reference junctions or signal conditioning. A readout is accomplished by connecting a sensor to any direct reading DC microvoltmeter or recorder.

The HFS series sensor is designed for precise measurement of heat loss or gain on any surface. It can be mounted on flat or curved surfaces, and employs butt-bonded junctions with a very low thermal profile for efficient reading. The sensor is available with an integral thermocouple for discrete temperature measurement needed to describe the heat flux, and is available in two different sensitivity ranges. All models utilize a multi-junction thermopile construction. The carrier is a polyimide film which is bonded using a PFA lamination process.

** Other sizes and styles available, consult Applications Engineering.

For epoxies and cements compatible with HFS Series, see our OMEGABOND® epoxies online.
Ideal for Precise Heat Transfer Measurement

HEAT FLOW MEASUREMENT INSTALLATION AND HOW IT WORKS

<table>
<thead>
<tr>
<th>Heat Flow Sensor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difference in temperature across thermal barrier is proportional to heat flow through the sensor</td>
</tr>
</tbody>
</table>

Heat Flow Meter

Digital display of heat flow through the heat flow sensor. White, positive (+) is for heat going into surface sensor; red, negative (-) is for heat flowing out of surface. Choose either BTU/Ft² Hr or Watt/Meter² by switch selection.

Note: Optional thermocouple leads are yellow (+) and red (-).

Specifications

Upper Temperature Limit:
150°C (300°F)

Number of Junctions:
HFS-3: 54
HFS-4: 112

Carrier: Polyimide Film (DuPont Kapton®)

Nominal Sensor Resistance:
HFS-3: 140 Ω
HFS-4: 175 Ω

Lead Wires: #30 AWG solid copper, PFA insulated color coded, 3.1 m (10’ long)

Weight: 1.0 oz

For epoxies and cements compatible with HFS Series, see our OMEGABOND® epoxies online.