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.

**Effective for Convection, Conduction and Radiation Heat Transfer**

**Conveniently Interfaces with Voltmeters and Recorders**

**Easily Attaches to Curved and Flat Surfaces**

**Temperature Range from -200 to 150°C (-330 to 300°F)**

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**Specifications**

**Upper Temperature Limit:**

150°C (300°F)

**Number of Junctions:**

- HFS-3: 54
- HFS-4: 112

**Carrier:** Polyimide film (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:** 28 g (1.0 oz)

*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.

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**To Order visit newportUS.com/HFS for Pricing and Details**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Sensitivity (µV/Btu/°Ft²Hr)</th>
<th>Max Rec'd Heat Flux (Btu/°Ft²Hr)</th>
<th>Built-in T/C Type K</th>
<th>Resp. Time (sec)</th>
<th>Thermal Capacitance (Btu per °Ft²/Ft² Hr)</th>
<th>Thermal Resistance (°F per Btu/Ft² Hr)</th>
<th>Nominal Thickness (mm/inch)</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>
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<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>

* For epoxies and cements compatible with HFS Series, see OMEGABOND® epoxies visit newportUS.com

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