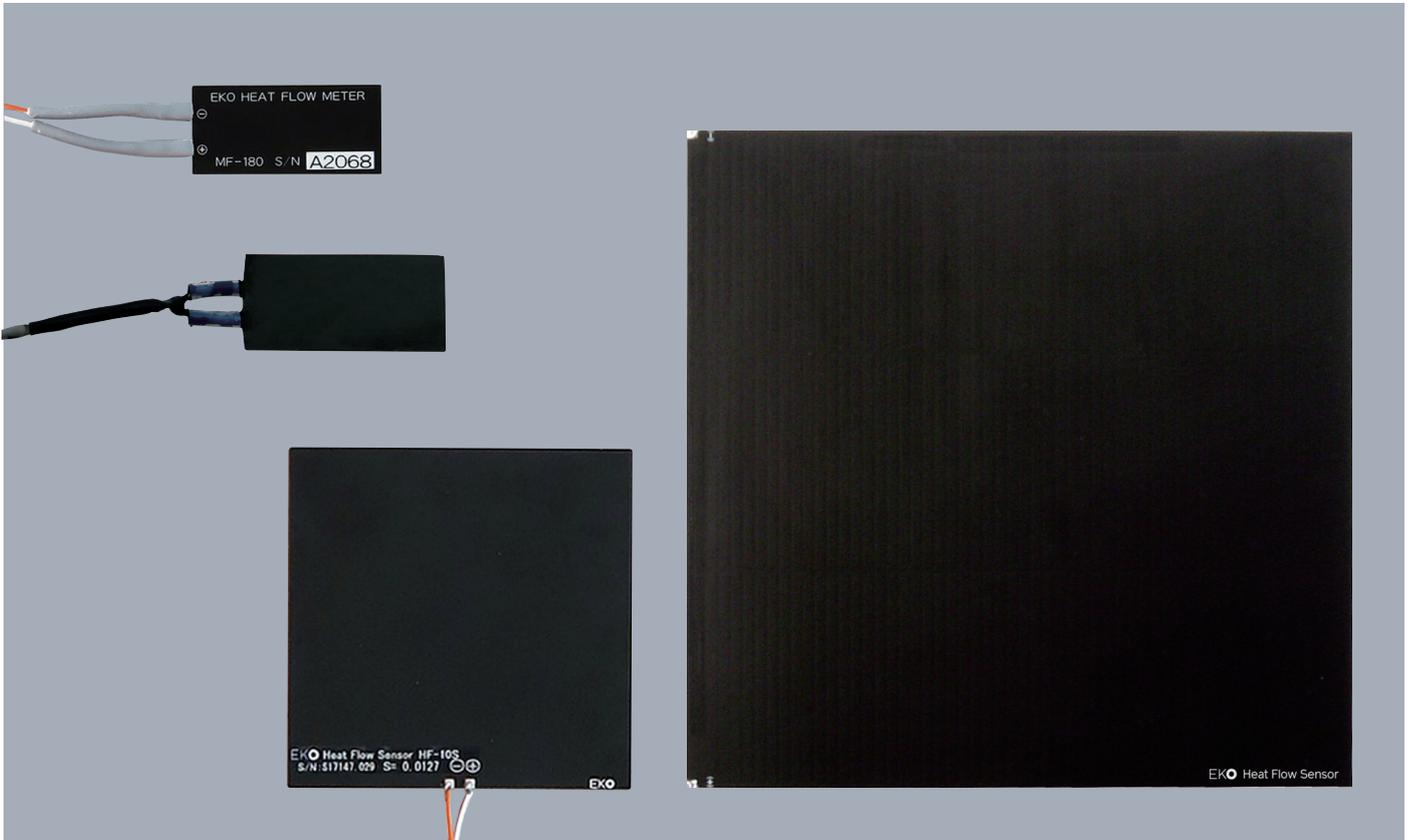


MF, HF-Series

MF-180, MF-180M, HF-10S, HF-30S

JIS A 1412 Calibration
Traceability



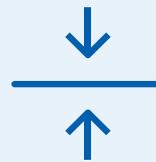
Overview

The MF and HF series Heat Flux Sensors are designed to directly measure the heat flux to and from surfaces such as walls, floors and ceilings by embedding or attaching to virtually any surface. From heat flux measurement in freezers, stockrooms, boiler rooms to full-scale building thermal monitoring, the versatile sensor options offer solutions for any use case.

The MF-180 and MF-180M are compact and sensitive, great for multi-point measurement and deliver great performance even in low-heat-flow situations, while the thin construction of the HF-10S and HF-30S allows installation of the sensors between layers, for instance, in an insulated wall.

With a selection of thin substrate heat flux sensors of different sizes and thicknesses, EKO's MF and HF series provide ideal solutions for a range of research and engineering applications as well as manufacturing control and monitoring processes.

Features



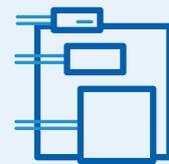
Thin, Compact Form Factor



Flexible Options,
Suitable for a Range of
Applications



Compatible with QRU-
100 and QHT-10 Thermal
Monitoring Kits



Durable & Versatile,
with Four Different Size
Options

Heat Flux Sensors



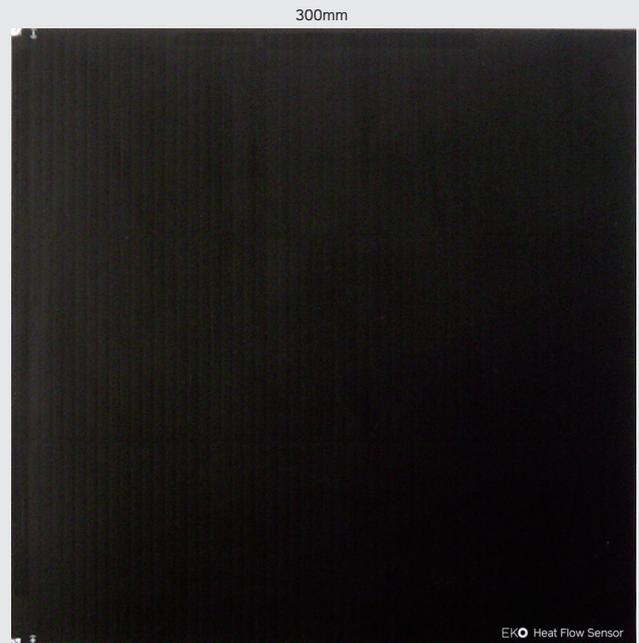
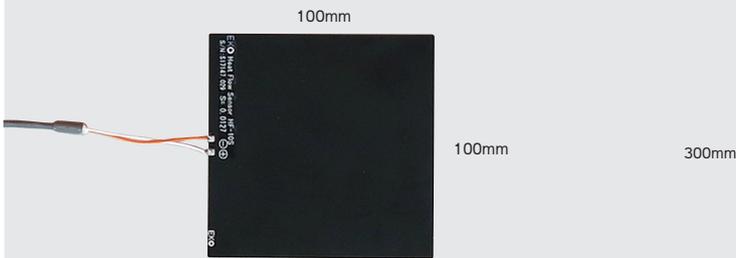
HF-10S

Only 0.5mm thick, the HF-10S is a thin plate sensor with low thermal resistance, making it an ideal option for research applications and manufacturing control processes where the sensor's thermal resistance must be small, and the perfect choice for when the sensor is to be placed between two layers.



HF-30S

The HF-30S is an extra-large, thin-plate heat flow sensor covering 30 x 30 cm². Its size ensures averaged heat flux measurement results on flat surfaces, and its thin, flat construction means it can also be placed between layers (e.g. insulation).



MF-180

As small as 4 x 2 cm², with a thin 0.9 mm plate, the MF-180 is a flexible option for a variety of applications with a measurement range from -30°C to 120°C. Light and easy to install, multiple units of the MF-180 are a great alternative to the HF-30S for large areas with an irregular surface.



MF-180M

The MF-180M is water resistant (IP65), moulded with epoxy resin, and based on a Teflon (PTFE) substrate with Carbon FRP cladding. It's tough, sensitive, and is almost just as small as the MF-180, making it suitable for a range of applications.



Specifications

	MF-180	MF-180M	HF-10S	HF-30S
Response time 95%	25 sec	13 sec	25 sec	28 sec
Nominal Sensitivity	28 $\mu\text{V}/\text{W}/\text{m}^2$	25 $\mu\text{V}/\text{W}/\text{m}^2$	12 $\mu\text{V}/\text{W}/\text{m}^2$	100 $\mu\text{V}/\text{W}/\text{m}^2$
Thermal Resistance	0.01 $^{\circ}\text{C}/(\text{W}/\text{m}^2)$	0.015 $^{\circ}\text{C}/(\text{W}/\text{m}^2)$	0.0016 $^{\circ}\text{C}/(\text{W}/\text{m}^2)$	0.0016 $^{\circ}\text{C}/(\text{W}/\text{m}^2)$
Impedance	150 to 550 Ω	150 to 550 Ω	90 to 180 Ω	400 to 800 Ω
Operating temperature range	-30 to 120 $^{\circ}\text{C}$	-20 to 120 $^{\circ}\text{C}$	-30 to 120 $^{\circ}\text{C}$	-30 to 120 $^{\circ}\text{C}$
Cable length	10 m (20 or 30 m)	10 m (20 or 30 m)	10 m (20 or 30 m)	10 m (20 or 30 m)
Dimensions (L x W x H) mm	40 x 20 x 0.9	50 x 25 x 1.2	100 x 100 x 0.5	300 x 300 x 0.5
Weight	0.0011 kg	0.001 kg	0.04 kg	0.12 kg
Substrate	Teflon	Teflon	Glass epoxy	Glass epoxy
Cladding	Polyester	Carbon FRP	Epoxy	Epoxy
Ingress protection	-	IP 65	-	-

Related Products



QHT-10 Thermal Monitoring Kit

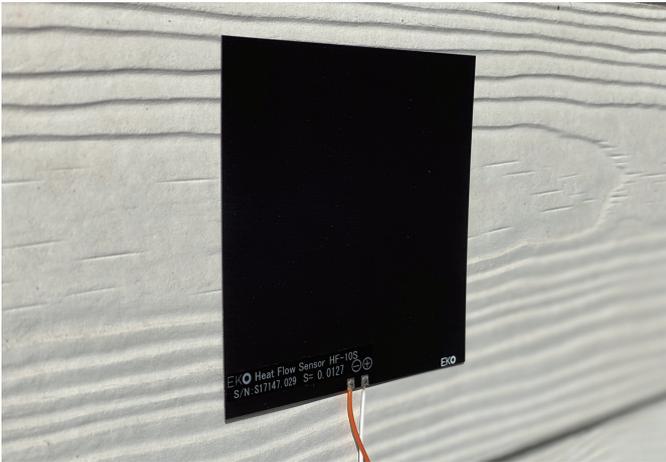
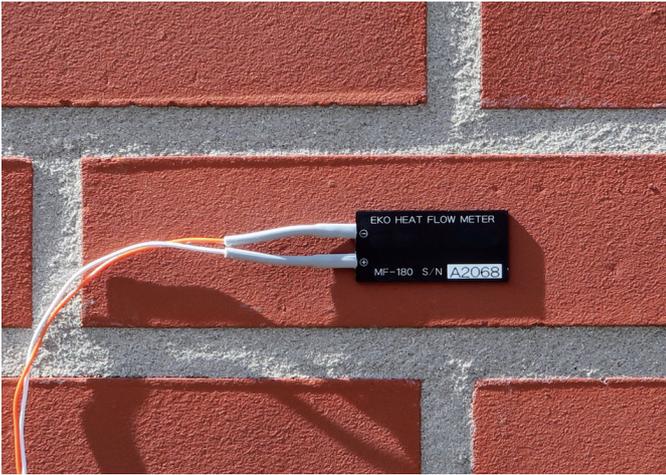
The QHT-10 Thermal Monitoring Kit is a flexible heat flux and temperature monitoring solution, including thin and sensitive MF-180 Heat Flux Sensors and highly accurate 4-wire RTD Temperature Sensors, the QHT-10 comes in three configurations; the dual 'Heat Flux' model 'HH', the dual temperature model 'TT' and the mixed model 'HT'.



QRU-100 Thermal Monitoring Kit for Buildings

Compatible with ISO 9869 and ASTM C 1046, a critical requirement for modern construction, renovation, quality assurance, and energy efficiency assessment, the QRU-100 thermal monitoring kit includes separate indoor and outdoor measuring units. Equipped with an MF-180 for indoor heat flux monitoring, together with indoor and outdoor temperature sensors, the QRU-100 can measure both thermal transmittance and thermal resistance, the U and R-Value of a wall or similar structure.

Applications



With models available in multiple configurations, EKO's MF and HF Series Heat flux sensors are perfectly suited for thermal performance evaluation of buildings and heat loss measurement applications, thanks to a flat, thin design optimised for minimum interference in most test conditions and areas.

QR

Use the QR code to visit our website, contact our team, or find out more about the **Heat Flux Sensors**, related products, and the full range of Class and industry-leading products from EKO.



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Made in Japan for over 90 years, EKO solar energy sensors and environmental instruments are built on a legacy of innovation, an uncompromising commitment to quality, and industry-leading accuracy.

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Sky Scanners



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