Hukseflux Thermal Sensors B.V.
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Product certificate

Pages: 1
Release date: 16-05-2018

Product code	**HFP01SC-15**
Product identification	**serial number 5693**
Product type	self-calibrating heat flux sensor
Measurand	heat flux

Calibration result

Sensitivity	$S_{reference}$ = **61.26 x 10^{-6} V/(W/m^2) ± 1.84 x 10^{-6} V/(W/m^2)**
Heater resistance	R_{heater} = **94.5 Ω ± 1.9 Ω**
Heater area	A_{heater} = **3885 x 10^{-6} m^2 ± 136 x 10^{-6} m^2**

the number following the ± symbol is the expanded uncertainty with a coverage factor k = 2, and defines an interval estimated to have a level of confidence of 95 percent

The sensitivity $S_{reference}$ is determined at the factory using an electrically generated heat flux that is forced through the sensor. Every new calibration results in an updated sensitivity $S_{selfcalibration}$.

Measurement function $\Phi = U/S_{reference}$

Measurement function $\Phi = U/S_{selfcalibration}$

$S_{selfcalibration} = 2 \cdot (U_{selfcalibration}/\Phi_{selfcalibration})$

$\Phi_{selfcalibration} = I_{heater}^2 \cdot R_{heater}/A_{heater}$

With Φ heat flux in [W/m²], U voltage in [V] , $U_{selfcalibration}$ additional voltage induced by heater during self calibration in [V], $\Phi_{selfcalibration}$ heat flux generated by heater during self calibration in [W/m^2], I_{heater} the current through the heater during self calibration in [A], R_{heater} the heater resistance in [Ω], A_{heater} the heater area in [m^2]

Product specifications

1:	cable length	**15 m**

Table 0.1 *connections* ***Cable 1***

CABLE	WIRE	
1	White	signal [+]
1	Green	signal [−]
1	Black	ground

Table 0.2 *connections* ***Cable 2***

CABLE	WIRE	
2	Green	heater
2	Brown	heater
2	Black	ground

Calibration procedure according to Hukseflux HFPC01.
Traceability of calibration is to SI units.

Please consult the user manual for information on measurement uncertainty during actual use and for product set up, operation and maintenance instructions.

Calibration performed by:
G.J. Halve

Date:
16-05-2018

Person authorising acceptance and release of product:
L. Asaa

Date:
16-05-2018