

HUKX

Sensor
Technology

Brochure

Portable heat flux sensor
with read-out unit/data logger

HF03-L19

HF03-LI19

Portable heat flux sensor

with read-out unit/data logger

HF03 is a heat flux sensor that is applied in mobile measurements. It is combined with LI19, a high accuracy handheld read-out unit/ data logger.

The combination HF03-LI19 is typically used to study heat flux levels of flares and fires, and to verify the performance of permanently installed flare radiation monitors and flare heat flux sensors.

Figure 1 HF03-LI19 portable heat flux sensor with read-out unit/ data logger.



Introduction

HF03 is a heat flux sensor commonly used in fire testing. It is designed for short (< 10 min) monitoring and measurement in high flux environments in the heat flux range up to $10 \times 10^3 \text{ W/m}^2$.

LI19 displays the measured heat flux.

Once programmed with the sensitivity of the connected sensor, the display will show the actual value of the heat flux in W/m^2 . LI19 is programmed via its PC user interface. It communicates over USB. We recommend downloading the latest software. LI19 may also be used to store measured data. LI19 is battery powered, using 2 x AA-type batteries. Fresh batteries allow 50 days of operation. HF03-LI19 is not rated for EEx (potentially explosive) environments; nevertheless, it is often admitted, because the instrument operates on 3 VDC only.

Operation

Operating the HF03-LI19 is easy. As LI19 has already been programmed at the factory, measurements can start by switching on the LI19. The data storage interval is set by using the LI19 user interface software.

Directions for operation:

- Connect the LI19 to the HF03 sensor.
- Switch on LI19.
- Check sensor sensitivity settings on the display (displayed 1 s after startup) against the HF03 product certificate and hand grip.
- Check the zero signal with the protection cap on the HF03.
- Remove the protection cap from HF03.
- Check the functionality of the system by short exposure to a strong heat flux source.
- Start measurement, write down measured values.



Suggested use

- performance of verification permanently installed flare radiation monitors such as HF02
- monitoring during fire-safety demonstrations

Latest software

The latest software should be downloaded from www.hukx.com/downloads



Figure 3 Screenshot of LI19. Software user interface on PC.

Delivery

- HF03 with cap
- programmed LI19 with 2 x AA battery
- 2 spare batteries (type AA)
- transport case with space for sensors
- LI19 product certificate
- HF03 product certificate
- strip with measurement unit markers
- USB cable
- LI19 software

See also

- our [complete line of heat flux sensors](#)
- [SBG01](#) for high-accuracy indoor heat flux flame measurement
- heat flux sensors type [HF02](#) (for permanent installation close to flares)

Figure 2 HF03 with its protection cap.

HF03 specifications

| | |
|------------------------------|-------------------------------------|
| measurand | heat flux |
| rated measurement range | 0 to $10 \times 10^3 \text{ W/m}^2$ |
| rated exposure time interval | 0 to 10 min |
| calibration traceability | to ITS90 |
| standard cable length | 5 m |

L19 specifications

| | |
|-----------------------------------|---|
| output on display with HF03 | heat flux in $\times 10^3 \text{ W/m}^2$ |
| stored measurement definition | minimum maximum and average over storage interval with conversion to W/m^2 |
| A/D conversion | 16 bits |
| temperature dependence | $< 0.5 \% + 3 \times 10^{-6} \text{ V}$ over rated range |
| display refreshment rate | 1 s^{-1} |
| battery type | 2 x AA |
| internal power supply voltage | 3 VDC |
| battery life | > 50 days (on fresh batteries) |
| storage interval range | 2 to 65535 s (selectable) |
| storage capacity | 3518 measurements |
| rated operating temperature range | -10 to +40 °C |
| user interface on PC | L19 software |
| connection to PC | USB 1.1/2.0 low speed |

About Hukx

Hukx is the leading innovator in solar radiation and heat flux sensor technology. We are proud to set the standard in high-accuracy measurement, and to be working at the heart of the energy transition.

Customers worldwide rely on our bestselling pyranometers and heat flux sensors. From sensor design and selection to supply and recalibration, we support you across the entire lifecycle.

Hukx is headquartered in the Netherlands, with locally owned representative sales offices in the USA, Brazil, India, China, Southeast Asia, and Japan.

Let us help you select the best sensor for your application. Get in touch with our experts today via: info@hukx.com

© Hukx

Version 2511

We reserve the right to change specifications without prior notice.

www.hukx.com

HUKX