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**Letter**                      **Letter of testing performed by Eurofins Expert Services for SAFERA Oy.**

SAFERA Oy assigned Eurofins Expert Services to perform tests according to Standard EN 50615 for stove guard sensor unit Sense (connected with Power Control unit (PCU)). The complete test and test results are presented in the test report EUFI29-2006163-T1 that is not published yet. The following test was performed:

1. Table 11.104.2 Test for Category B devices.

Testing was performed with sensor unit Sense and control unit PCU. The testing was performed only with wall mounting. According the client and the previous testing results the wall mounting has been assumed to be more difficult than the cooker hood mounting. The base of this is that the sensor works like thermal camera and when the sensor is mounted on the wall large pans in front of the sensor will shade more little front plates. The final report will present the cooker hood mounting results for comparing to the wall mounting results.

2. Chapter 22 Construction test 22.102 was performed with sensor unit Sense and control unit

*Test description*

*The sensor shall give a visible and audible warning signal when the battery is approaching the end of life or in case that it is wrongly mounted. In this situation the cooking appliance cannot be switched on.*

*However, in the case that the user wants to start a cooking process, the error message needs to be confirmed by the user and the appliance is unlocked again.*

Test procedure

The following procedure was used to simulate a situation when the battery is dead or wrongly mounted (0 V supply to heat sensor Sense). The battery was replaced with adjustable external power supply. During the battery test the sensor, the operation of the sensor was monitored with Safera Oys app with Apple ipad.

- The correct operation of the sensor was checked, with power output 4.5 V that presents full battery.

Test results are only valid for tested sample(s). This report may be published in its entity, parts of it only with a written permission by Eurofins.

- Then the voltage was lowered to 2.4 V that presents output, which is near operation limit of the stove guard sensor.
- The cooking was started. (To show power cut off).
- The voltage was lowered to 2.39 V. The app says that the battery is out.
- Then the voltage was lowered to 1.19 V and the cooking is still on. The sensor drops with out power and app says no connection. The cooking is still on. When the cooking is lasted approximately 2 min 20 seconds the PCU cut power off from the stove.
- The power comes back if the user turns the stove's fuse off and back on. Then the user gets an 1 hour to cook at time.

Table 1. Test results for dead or wrongly mounted battery

<b>Test: Dead or wrongly mounted battery</b>	
<b>Requirement</b>	<b>Result (yes/no)</b>
Cooking appliance cannot be switched on	Yes

### 3. Chapter 22 Construction test 22.103 Temporary deactivation

There is no temporary deactivation function in the meaning of this standard. Not tested this option.

### 4. Chapter 22 Construction test 22.104 Test system

By the client, the device has real time self diagnostic which cuts power off from the stove in 2 minutes. The client says that if this would like to test to sensor must be damaged seriously. By the manufacturer, the automatic diagnostic system will tested for the final report.

### 4. Chapter 22 Construction test 22.105 Disconnecting device

The disconnecting device (PCU) is tested against standard EN 60730-1 by SGS Fimko Ltd. The test certification is presented in the test report.

### *5. Chapter 22 Construction test 22.106 Means to keep the device in place.*

If the sensor unit is moved away the power must be cut off. The test was performed as following: the cooking was on, the sensor was moved away from the mounting plate, the PCU cut power off in 50 seconds.

The tested stove guard unit with sensor unit Sense and control units Power Control unit met the performance criteria set out in the standard EN 50615 regarding the above-mentioned tests.

Eurofins Expert Services Oy is Test laboratory No T001 accredited by FINAS Finnish Accreditation Service. Eurofins Expert Services conforms to the requirements of the standard SFS-EN ISO/IEC 17025:2005. The standard EN 50615 is in the scope of accreditation.

Eurofins Expert Services, on Espoo Wednesday, 23 December 2020

*Juha Väänänen*

*Expert*