The influence of the temperature block with the Vaisala TMP115 temperature measurement probe

This report describes the influence of the Vaisala temperature dampening block with the Vaisala TMP115 temperature probe used in Vaisala RFL100 Wireless data loggers.

The temperature dampening block

The temperature dampening is typically used in cold storage applications in freezers and refrigerators to avoid unnecessary temperature alarms when the door is opened. The Vaisala dampening block is made of aluminum and the mass is equivalent to 40 ml of glycol.

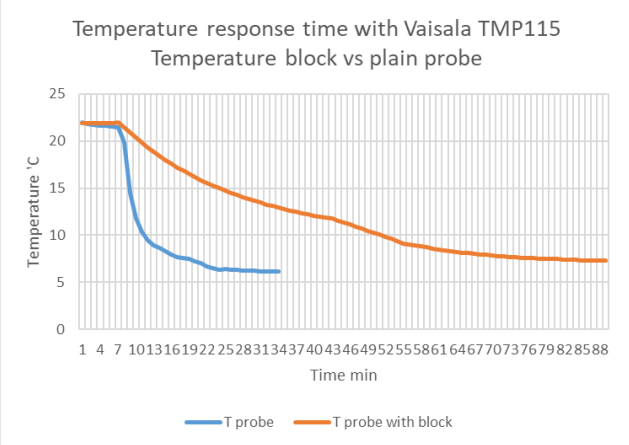
The test equipment

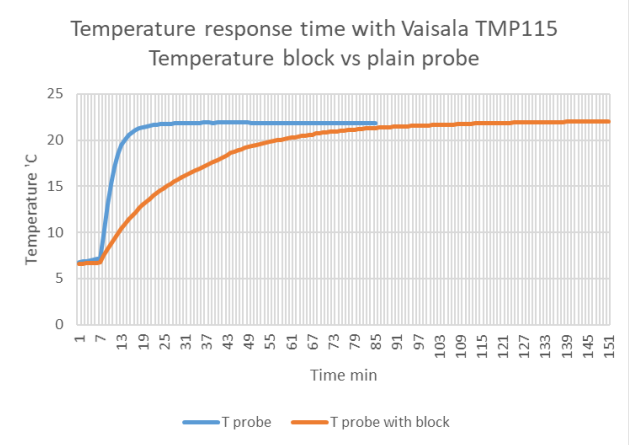
A comparison test was performed with the following equipment

- TMP115 temperature probe SN R0630757
- RFL100 data logger SN R4910420 with data logging once a minute.
- 236310 temperature dampening block
- Commercial refrigerator Siemens iQ100

Test environment temperature was appr. 22 ‘C.

The comparison test results





The t90 value for temperature change down:	The t90 value for temperature change up:
• With plain probe: 10 minutes • With the block: 51 minutes	• With plain probe: 7 minutes • With the block: 54 minutes

Conclusion

The temperature block will slow down the temperature changes with a factor of five (5) to seven (7).