PEWATRON
SENSORS · POWER SOLUTIONS

PHTM

portable humidity & temperature measuring system

Experts on Design-In

The PHTM is a system that measures and records the crucial parameters of oven temperature and oven humidity in multiple places at the same time during the industrial baking process. With the PHTM, it is possible to record true profiles for the first time, whereas other systems offer just one humidity measurement point.

The benefits of the PHTM:

The parameters of oven temperature and humidity are essential to ensuring optimal quality in baked goods.

For bakers, the following requirements are important in the production of baked goods:

- Optimisation of baking processes with regard to quality, use of resources and energy consumption.
- Ensuring consistently high product quality.
- Optimisation of the baking process when dealing with product changes, shortening of changeover times, waste reduction and increased efficiency.
- Regular review and verification of optimal parameters through quality assurance for customers.
- Analysis of the baking process in the event of any variations in quality.
- Early detection of weaknesses in the oven in individual baking areas (oven length and breadth).
- The PHTM allows stationary OHS oven humidity sensors to be installed in the optimal positions inside the oven.

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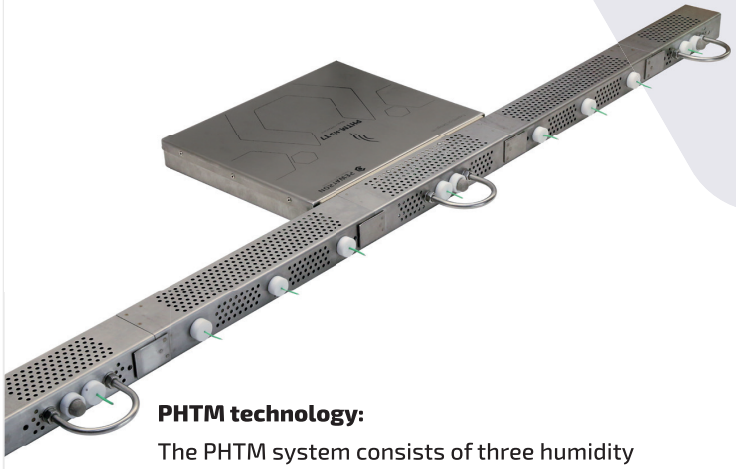

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PHTM technology:

The PHTM system consists of three humidity sensors and seven temperature sensors in a modular sensor carrier, as well as a data logger in an insulation box. The insulation box and sensor carrier are permanently connected and are placed between the products for measurement during ongoing production. This means production can continue largely undisturbed and the measurements taken represent the current profile in the oven.

The PHTM can be adapted for all baking processes: dry baked goods with baking times of minutes are just as easy to measure as fresh baked goods with baking times of hours.

The measurements can be started and stopped on a laptop or using a smartphone app. The evaluation is usually carried out on a laptop. The measurements can be uploaded to the cloud and thus made available to other authorised users.

Technical data:	
Humidity sensors:	3
Temperature sensors:	7
Type of temperature sensor:	type K thermocouple
Humidity measuring range:	0 – 100 VOL%
Oven dwell times:	
Insulation box 40 mm:	approx. 20 min at 180°C - 250°C
Insulation box 120 mm:	approx. 90 min at 180°C - 250°C
Maximum temperature:	short-term 300°C
Sensor carrier:	modular connector system
Width:	750 – 4 000 mm
Sensor carrier height:	40 mm
Insulation box 40 mm:	W x D x H: approx. 325 x 265 x 40
Insulation box 120 mm:	W x D x H: approx. 375 x 300 x 120
Other insulation boxes tailored to specific baking processes are optionally available.	
Data logger:	
Type:	MSR145WD
Time interval:	1 s - 12 h
Measurement data:	max. 2 million
Power supply:	
Humidity sensors:	NiMH battery, 14.4 V / 2.7 Ah
Data logger:	lithium polymer battery, 4.2 V / 170 mAh

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