Moisture Sensor PCE-MWM 300P

PCE-MWM 300P Microwave sensor / continuous moisture measurement in pellets, wood chips (variably installable/attachable)

In the industrial production of wood pulp boards (PB, MDF, OSB) or pellets, the on-line measurement of the moisture/density of the wood material is essential to ensure that the processes in production run as efficiently as possible, energy consumption is kept low, and the raw material losses are minimized.

The use of a microwave moisture meter, as opposed to a humidity sensor, provides a very consistent and high product quality while reducing operating and maintenance costs. When connected to a controller or a process control system, the operator has the opportunity to interact with the measurement results in real time. This means less downtime, for example in pressing or drying processes the loss of material is reduced. The payback period of the microwave moisture sensor for pellets and wood pulp is therefore very small, only a few weeks.

In the online moisture measurement in production processes, the microwave sensor is valuable in many process stages: in the refining of wood pulp, during resin treatment, during pressing/dewatering and during the final drying. When used for measuring the moisture content of sawdust or larger wood chips, the microwave sensor provides exceptionally accurate measured values if the wood pulp is homogeneous, well mixed, and pre-dried to avoid "moisture nests" in the wood pulp mixture.

The more accurate the on-line moisture measurement of the wood pulp and the moisture control, the smoother the end product (MDF, OSB boards) produced from it later on. In addition, the drying process (dryer control) itself is very costly. Thus, there is the greatest savings potential in this area. Too much drying may lead to not only a waste of energy, but deterioration in the quality of the fiber material.

Areas of application for the PCE-MWM 300P microwave sensor include fiberboard (PB, MDF, OSB), sawdust, wood shavings, wood lamellae, wood panels, wood pellets and wood chips (incineration). The use of a microwave moisture meter can also be used to effectively control the feed rate when burning wood pellets in industrial furnaces or firing systems.

Specifications

Technical Data:

Measuring Range	0 ... 100 %
Maximum permissible error (absolute)	Δ= 0.035 + 0.05 x W
Temperature measurement range	-40 ... +150 °C / -40 ... +302 °F
Operating temperature range	-20 ... +80 °C / -4 ... +176 °F
Working mode	continuous operation
Measuring interval	0.2 s
Power supply	24 (18 ... 36) VDC
Current consumption	200 mA
Warm-up time (start-up)	90 min
Outputs	RS 485 Modbus RTU, 4-20 mA [RS485: max. cable length 1000 m; 4-20 mA: max. cable length 100 m (max. cable length up to the PLC)
Inputs	2 x digital 24 VDC
Dimensions (sensor)	108 x 120 mm / 4.3 x 4.7 in
Dimensionen (electronics unit)	255 x 170 x 60 mm / 10 x 6.6 x 2.3 in
Protection (sensor)	IP67
Protection (electronics unit)	IP54
Weight (sensor)	3.5 kg

An integrated temperature sensor continuously measures the temperature of the wood products (The readings are displayed. These are used internally for temperature compensation).

Please note that we will need further information to provide a final price for supply and fit. We will need to know what materials are to be measured, we will need samples of the material, and we will need a technical drawing showing where the sensor is to be installed.

More information

More product info

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