

# Datasheet

## VHF Moisture Sensor

**PCE-MWM 210**

**EN**

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## Application

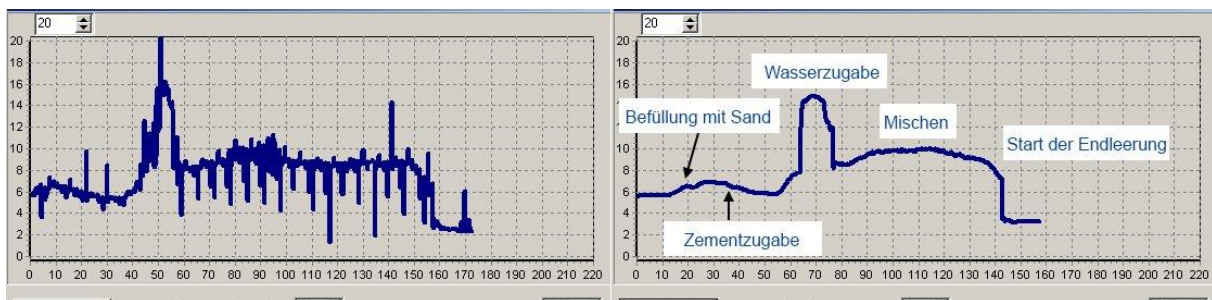
Among the range of the materials for the measurement of moisture content in which the moisture meters are used concrete takes a separate place. It allows conducting the measurement of moisture content inside the concrete-mixers, to check the quality of the mixture and its consistence. Those materials that have got high conductivity and permittivity (coke, ore etc) are especially good for being measured with that particular moisture meter. As in the other versions the model PCE-MWM 210 consists of the electronic unit and a sensor. In that case the sensor is remote.



Peculiarity of the sensor design (construction) is the following: its front surface is protected by the plate made of alloy 40X13 – stainless steel with higher resistance to the abrasive wear-out. The same plate is simultaneously a sensor that forms a probe electromagnetic field in the environment under control. Due to the sensor having an immediate contact with the environment under control, the sensor has got a maximum sensitivity.

## Product features

It should be noted that a sensor of such a construction is definitely much more resistant to impacts from front surface in comparison to the sensors which have got their sensitive element covered by the fragile ceramic plate. To achieve the effective control of the mixing process it is recommended to display the information to the computer, meanwhile the operator can monitor the process of concrete preparation in dynamics. It allows reducing the concrete mixing cycle and unloading the mixer not after the specified time runs out, but when the required homogeneity of the mixture is achieved. The moisture sensor is available in a version for mounting on the hopper wall or on the panel board located above the conveyor belt. The sensor may also be installed in a hole drilled in the bottom of the concrete-mixing machine or on its wall. The package includes all necessary mounting hardware.

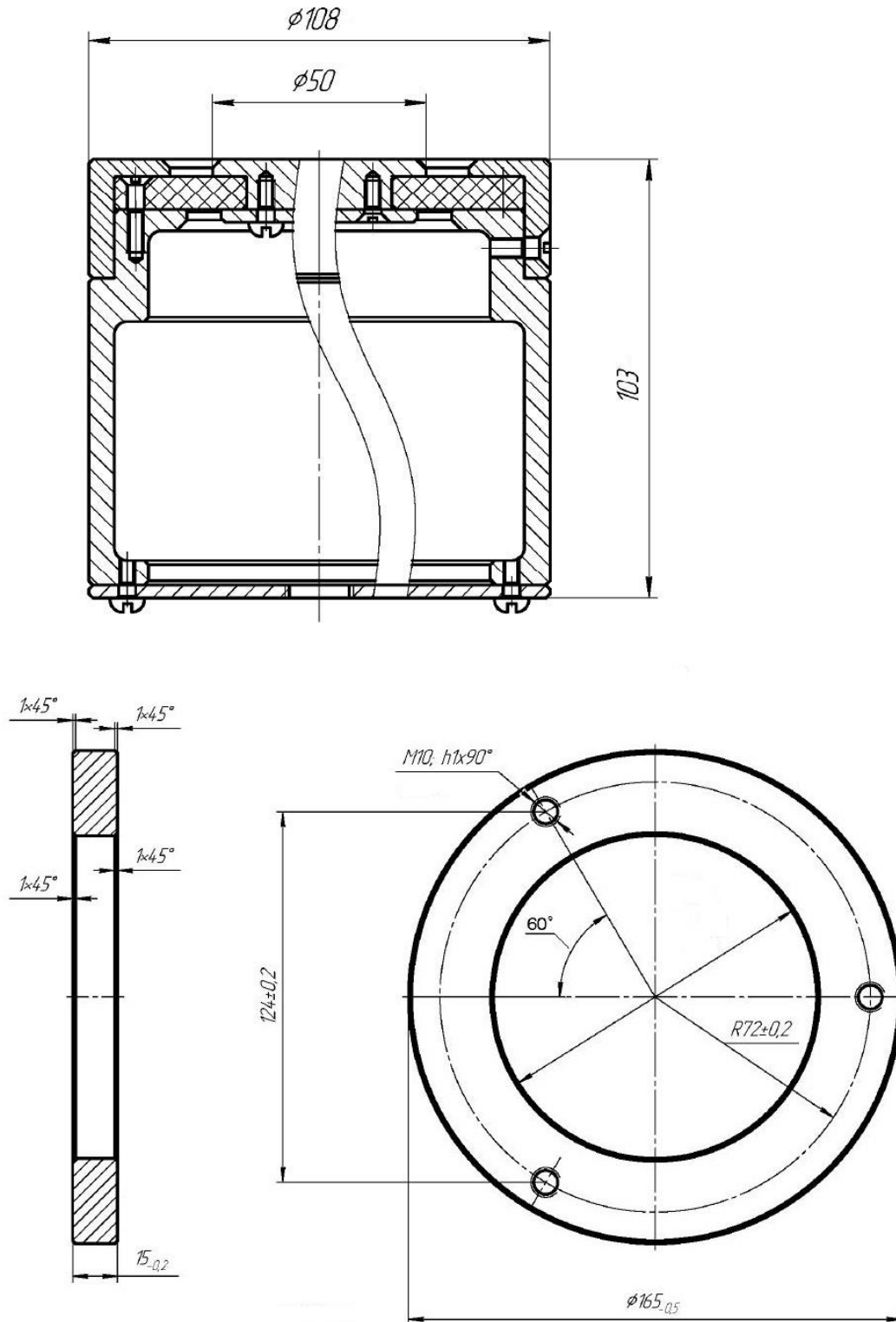


**Technical specification**

Measurement range	0 ... 100 %
Limits of permissible absolute error of the measurements results of the mass fraction of water	$\Delta = 0.035 + 0.05 \cdot W$ (see note 1)
Temperature measurement range	-40 ... +150 °C
Range of working temperatures	-20 ... +180 °C
Operation mode continuous	continuous operation
Voltage supply - Rated / - Allowable	24 (18 ... 36) V DC
Consumption current, not more than	200 mA
Warm-up time at start-up	90 min
Output	RS 485 Modbus RTU, 4-20 mA [RS485: max. cable length 1,000 m; 4-20 mA: max. cable length 100 m (max. cable length to SPS unit)]
Dimension of the sensor	Ø 108 x 120 mm
Overall dimension of the electric unit	255 x 170 x 60 mm
Protection class (sensor)	IP67
Protection class (electric unit)	IP54
Electric unit mass	3.5 kg
<b>Note 1</b>	
Moisture W [%]	Absolute error $\Delta W$ [%]
0 ... 10	0.5
10 ... 20	1.0
20 ... 50	2.5
50 ... 100	5.0

# Technical drawing

## PCE-MWM 210





**Application pictures**

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**Ordering code PCE-MWM 210-XX****Explosion proof (optional)**

-EX Electronics in explosion proof housing Ex d II B T5

**Ordering example****PCE-MWM 210-EX**

- VHF moisture sensor PCE-MWM 210
- Explosion proof Ex d II B T5