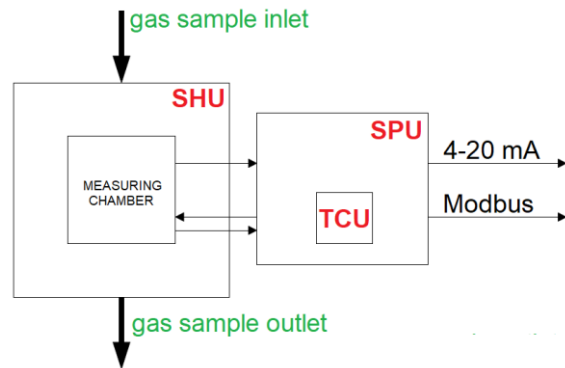


PENTOL

PCEM-W100

Humidity meter



The humidity meter is intended to measure volumetric content of water vapour in air and hot flue gas. The output signal from the instrument is proportional to the volumetric content of H₂O in measured gas sample expressed in %_{vol}. The measuring range is adjustable within 0÷15% up to 0÷40%_{vol} H₂O.

PRINCIPLE OF OPERATION

The fundamental component of the device is a relative humidity polymer sensor. This sensor is installed in a special measuring chamber at the end of a heated hose carrying the gas sample.

Inside the measuring chamber the temperature is kept stable at set point level. This set point is adjustable within a range between 60 and 140°C. In order to assure high measuring accuracy the measuring head set point temperature is controlled very precisely by an external temperature controller unit. The set point is selected depending on gas parameters and measuring range.

Dipped in a sample gas the polymer sensor measures its relative humidity. The available output is both digital signal in MODBUS RTU protocol (RS485 or RS232) and analogue current signal 4-20 mA.

The sample gas must be free from solid particles and free of aerosols. Gas flow must be kept on constant level in a range between 0,4÷1l/min.

APPLICATIONS

The humidity meter PCEM-W100 is intended for continuous measurement of H₂O volumetric concentration in air, flue gases and process exhaust gases in:

- power plants,
- combined heat and power plants,
- cement plants.

It may be used in continuous emission monitoring systems and/or for process purposes. However, the device is not suitable for measurements in flammable or explosive gases.

TECHNICAL DATA

Process data

Medium	Humidity measurement in flue gases, non-aggressive, non-flammable, free from solid particles, water droplets and aerosols
Sample gas temp.	Higher than the dew point and not higher than 180 °C
Sample gas flow rate	0,4 ÷ 1 l/min

Technical parameters of the device

Ambient temp.	20 ÷ 40 °C
Measuring chamber temp.	60 ÷ 140 °C
Power supply	230 VAC
Power consumption	200 VA
Dimensions (W x L x H)	230,5 x 230,5 x 183,3 mm
Weight	~5,5 kg
Sample gas inlet connection	for a hose with outer diameter from Ø42 to 45 mm, connector for steal pipe Ø6/4 mm
Sample gas outlet connection	pipe Ø6/4 mm
Certificates	Declaration of Conformity CE

REMARKS

- Subject to technical modifications.

DOWNLOADS

- Technical specification of PCEM-W100 (Polish version)
- Technical specification of PCEM-W100 (English version)

MANUFACTURER



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