

KASTE – Real Estate Humidity Measurement system

Bad indoor air quality is a common problem in old and sometimes in new buildings. Quite often the reason is microbes, such as mold, which are living on humid structural elements. Humidity may come into a structure due to a roof leak, for example. Other possible ways are leaky drains, water fittings, and water pipes. Even new buildings may suffer from moisture which may arise e.g. from using wet insulation material. It is also possible that a concrete floor can not dry out due to wrong material choices.

KASTE humidity measurement system monitors humidity state of a building and gives an alarm message, when necessary. KASTE sensors measure relative humidity from floor, base floor, exterior walls, and ceiling or any other structural elements. The measurement system consists of RH sensors (KASTE 35) and data transmitters (KASTE 485). KASTE sensor comes with 8 m long cable which is connected to a data transmitter, which in turn is connected to a building automation system with a RS485 bus cable. The data transfer between transmitters and building automation system utilizes MODBUS protocol. KASTE allows for connecting tens of sensors and transmitters into the system with four bus cables in maximum.

KASTE SBC central unit is developed for making humidity measurements without a building automation system. KASTE SBC enables saving of measurement data to a SSD memory or a USB memory stick, and monitoring the results using a WLAN connection. With a browser based software a user can define upper limits for humidity, and when this limit is exceeded the system can send a SMS alarm message.



KASTE 35



KASTE 485



KASTE SBC

Technical data

HUMIDITY SENSOR KASTE 35

Humidity measurement range	0–100 % RH
Humidity measurement accuracy	± 2 % @ 0-100 % RH (typical) ± 2.5 % @ 0–90 % RH and $\pm 2.5 - \pm 3.5$ % @ 90 - 100 % RH (maximum error)
Temperature measurement range	$-40 \dots +125$ °C
Temperature measurement accuracy	± 0.2 °C @ $+0 \dots +90$ °C ± 0.1 °C @ $+20 \dots +60$ °C
Size	12 × 80 mm (sensor diameter × length)
Power source	3.3 V (from data transmitter)
Cable length	8 m

DATA TRANSMITTER KASTE 485

Number of sensors	1-8 pcs
Number of temperature sensors	1-100 pcs
Data bus	I2C (input), RS-485 (output)
Power source	12 V (input), 3.3 V (output)
Size	115 x 115 x 60 mm

CENTRAL UNIT KASTE SBC

Data bus	RS-485 (1-4 kpl), MODBUS-protocol
Memory type	SD-card 16 GB and USB-memory stick
Central memory	1 GB RAM
Other connections	Ethernet, WLAN, USB
Size	120 x 78 x 43 mm
Power source	12-24 VDC