
# CMa11

*Indoor M-Bus temperature and humidity sensor*

The CMa11 is a 2-way M-Bus communicating temperature and humidity sensor for indoor use. CMa11 is the ideal product for comfort level billing. The high accuracy sensor and user friendly handling makes the CMa11 the perfect choice for tenant owners.

## TEMPERATURE AND HUMIDITY

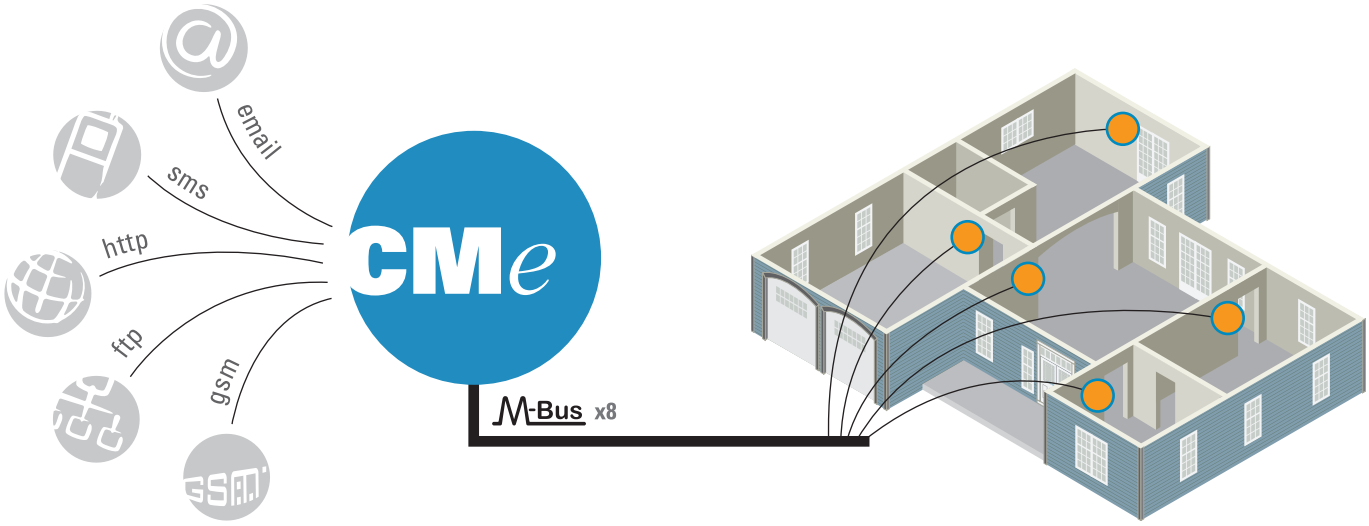
The CMa11 has a high accuracy temperature and humidity sensor, which will provide precise and fast readings. The precision meets the standards for measuring indoor climate.

## COMFORT LEVEL BILLING

There are many ways of billing residents for the energy used to heat the apartment/building. With the CMa11, it is possible to apply comfort level billing, which means that the resident pays for a certain indoor temperature. The buildings total energy cost for heating can easily be divided in parts (sq m). The main goal is to give the residents a fair energy cost.

## M-BUS READOUT

The M-Bus readout consists of momentary values and the average values for the last hour and day. The power used by CMa11 is only 1 T (1.5 mA) and both primary and secondary addressing mode can be used.



## Mechanics

| | |
|---|---|
| Casing material | ABS UL94-V0, white |
| Protection | IP20 |
| Dimensions | 80 x 80 x 28 mm |
| Weight | 75 g |
| Connection M-Bus | Screw terminal/Spring terminal solid wire 0.25-1.5 mm² |
| Mounting | Wall mounted |

## Electrical

| | |
|---|---|
| Power supply | 21-42 VDC Through M-Bus connection, independent of the wiring polarity |
| Power consumption | 1.5 mA M-Bus 1T |

## Environmental

| | |
|---|---|
| Operating temperature range | -20 °C to +55 °C |
| Storage temperature range | -40 °C to +85 °C |
| Operating humidity max | 0 to 95 % RH no condensation |

## Temperature sensor

| | |
|---|---|
| Temperature range | -20 °C to +55 °C |
| Temperature 10 to 30 °C | +/- 0.2 °C |
| Temperature 0 to 10 °C | +/- 0.4 °C |
| Temperature -10 to 0 °C | +/- 0.5 °C |
| Temperature -20 to +55 °C | +/- 1.5 °C |

## Humidity sensor

| | |
|---|---|
| Range | 0-100 % RH |
| Repeatability RH | +/- 0.1 % RH |
| Humidity 10 to 90 % RH | +/- 2 % RH |
| Humidity 0 to 100 % RH | +/- 4 % RH |

## M-Bus

| | |
|---|---|
| M-Bus standard | EN 13757 |
| M-Bus baud rate | 300, 2400 Bit/s |
| IR Interface | No |
| M-Bus commands | SND_UD, SND_NKE, REQ_UD2 |
| Addressing modes | Secondary, Primary |
| Momentary values | Temperature, humidity, status |
| Historic values | Average values for last hour and last day |

## Approvals

| | |
|---|---|
| EMC | EN 61000-6-2, EN 61000-6-3 |

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