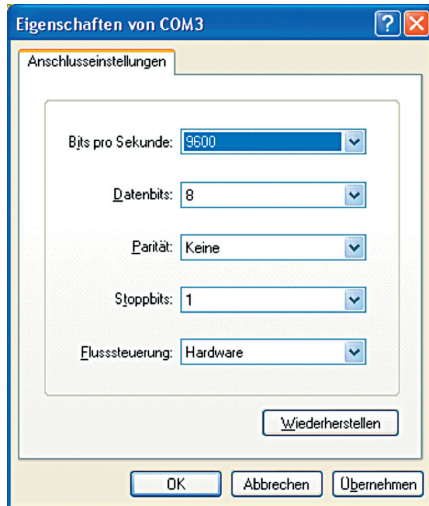
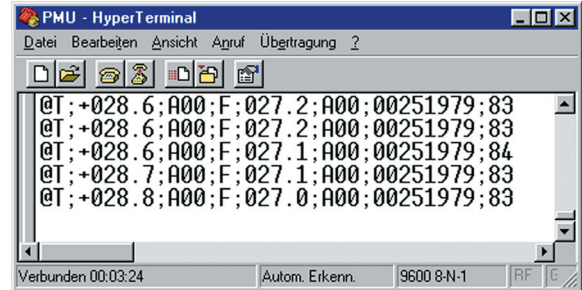


Connection settings



HyperTerminal (Windows)

The sensor PM15PS can be read via the Hyper Terminal programme from Windows. The picture below shows the character string of the data issued by the P15PS.



Notes on ASCII protocol

start of protocol	end of protocol	separation sign
@	"CR" and "LF"	","

The measurement data is sent in the measurement phase as ASCII-protocol on the RxD-pin:

@T	<sign>	<temperature>	<alarm-code>	F	<humidity>	<alarm-code>	<serial number>	<check-sum>	<CR>	<LF>
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Example:

@T; + 021.37; A00; F; 038.92; A00; 00000121; 38 control character Carriage Return control character Line Feed

The check sum is calculated as follows:

$$\text{check sum} = 255 - (\sum_{\text{dez}} \% 256) = \text{check sum}_{\text{dez}} = \text{check sum}_{\text{hex}}$$

Example:

$$\text{check sum} = 255 - (1991 \text{ Modulo } 256) = 255 - 199 = 56 = 38_{\text{hex}}$$

The check sum is not transmitted as a hexadecimal character with 1 byte, but is translated into readable digits with 2 bytes. Through the comparison of the transmitted check sum with a check sum calculated at the read-out point, the user has the opportunity to check whether the transmission of the data is error-free.

Alarm codes:

<i>Temperature channel:</i>	<i>Humidity channel:</i>
A00 = no alarm, the temperature value is within the limits	A00 = no alarm, the humidity value is within the limits
A01 = temperature measurement range exceeded	A01 = humidity measurement range exceeded (=100% rh)
A02 = below temperature measurement range	A02 = below humidity measurement range (= 0% rh)
A03 = no sensor signal	A03 = no sensor signal
A04 = short circuit at PT1000 (resistance < 500 Ω)	A04 = humidity sensor defective

Accessories

Description	Data sheet	Description
USB-Adapter serial -> USB	-	USB adapter for Sub-D-data line <i>To connect up the Sub-D-data line to a USB interface on the PC or Laptop</i>
ZA 24	F5.1	Attachment plate for attaching ducts or wall bushings for sensor tubes 15 mm
ZE 31/1-12 ZE 31/1-33 ZE 31/1-75 ZE 31/1-84	F5.2	Standard humidity to check the accuracy of the sensors 12 %rh and 25°C Standard humidity to check the accuracy of the sensors 33 %rh and 25°C Standard humidity to check the accuracy of the sensors 75 %rh and 25°C Standard humidity to check the accuracy of the sensors 84 %rh and 25°C
ZE33	F5.2	Adapter for humidity standards ZE 31/1

User information

Installation

The sensors are to be attached in a position representative for the climate measurement.

The position the sensor is mounted in (horizontal, vertical) does not matter. However, it should be mounted in such a way that no water can get into it.

Please note the maximum permissible ambient temperature when installing it (max. +70°C).

In a clean environment, the sensor is maintenance-free.

The capacitive MELA sensor element is also protected by the integrated PTFE filter.

Dust does not cause any harm to the humidity sensor, however, if there is an increased build-up of dust this does affect dynamic performance.

If there is too much dust around, then the protective basket can be carefully removed and washed. Loose dirt can also be removed from the PTFE filter above the sensor element by being blown on or carefully rinsed with distilled water.

Caution! The PTFE filter may not be removed from the sensor element!

Dew formation

Dew formation and splashes do not damage the sensor, although corrupted measurement readings are recorded until all the moisture on and directly around the sensor element has dried up.

Damaging Influences

Agents that are corrosive and contain solvents, depending upon the type and concentration of the agent, can result in faulty measurements and cause the measuring element to break down. Substances deposited on the sensor are damaging as they form a water-repellent film (this applies to all humidity sensors with hygroscopic measuring elements); e.g. resin aerosols, lacquer aerosols, smoke deposits etc. In order to check functioning in the place of installation, we recommend that you use our *ZE31/1-type humidity standard... (accessories)*.

To ensure the given accuracy of the sensors, we recommend a regular calibration cycle (timing depends on the kind of application).

Please consult the **application instructions** for the sensing elements (product info sheet no. A 1 and B1.1), which you can get from www.galltec-mela.de, for further information which you need to bear in mind when using humidity sensors with capacitive sensing elements.

Dimensions

