

# Weather Net Hagen

## Volkssternwarte Hagen e.V.



## Local weather monitoring network to support disaster management on site

### OVERVIEW: PUBLIC OBSERVATORY AND WEATHER NET HAGEN

The Arbeitsgemeinschaft Volkssternwarte Hagen e.V. is an observatory run by volunteers, which is primarily available to members and interested citizens. You will find further information at [www.sternwarte-hagen.de](http://www.sternwarte-hagen.de).

The Weather Net Hagen is a team within the observatory association that specializes in meteorology. Learn more about their work at [www.wetternetz-hagen.de](http://www.wetternetz-hagen.de).

Currently, 15 weather stations are maintained in different areas and altitudes of the city. Two of the primary goals are to record the local climate and effects of climate change more precisely and to provide the population and authorities with local measurement data in the event of extreme weather, such as heavy rain and storms.

## Special challenges

### 1. PREVENT ICING OF THE SENSORS

The observatory's sensors frequently experienced icing during the winter, particularly in exposed locations. This led to wind sensors providing incorrect values or failing completely.

### 2. INCREASE RELIABILITY OF WEATHER STATIONS

Only a reliable, fast-reacting weather measurement network is able to indicate where the heavy rains occur to support on-site disaster control through short-range forecasting. The entire network of weather stations must provide accurate measured values in real time and self-detect sensor anomalies to maintain the integrity of the data.

### CHALLENGE

Precipitation in the urban area of Hagen varies enormously. A dense local measurement network has already helped the area respond more effectively during flood events. An additional precipitation sensor was needed to reliably record exact precipitation levels, including during the winter, to inform essential mission control planning.

### SOLUTION

The Hagen Observatory uses the heated **precipitation sensor rain[e]** and the **data logger Ser[LOG]** with **MeteoWare CS** at several locations to further increase the density and strength of the local weather measuring network.



Lambrecht meteo offers a wide range of meteorological sensors combined with excellent support and first-class consulting. Furthermore, we were already able to complete some projects quickly due to short delivery times. We are convinced by the reliability and durability of the products.

— Bastian Rissling  
Observatory Board Member

# Solution: Using rain[e]one, Ser[LOG] and MeteoWare CS

Measuring various precipitation parameters is a complex and essential task. In times of climate change, precipitation measurement plays a crucial role, especially for flood forecasting and disaster control.



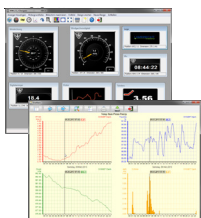
## RELIABLE AND FAST MEASUREMENT

rain[e]one is a compact rain gauge with a sensitive measuring principle that combines the advantages of weighing and collecting precipitation sensors. The continuously self-draining collecting system enables real-time measurement of every single drop with the high resolution of 0.001 mm/m<sup>2</sup> and prevents false measurements. The heating system ensures unattended year-round operation.



## COLLECT DATA EASILY

The data logger Ser[LOG] gives users the greatest possible flexibility for a variety of measuring tasks, including a 10 warning channel alarm system. The measurement network can be expanded easily.

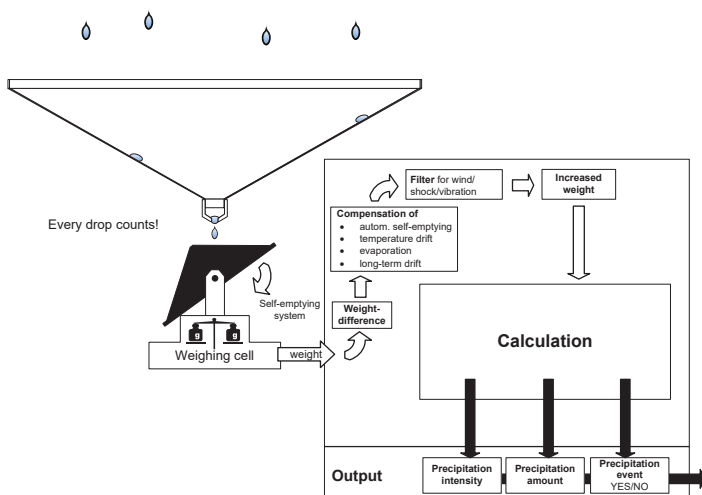


## REAL-TIME DATA REVIEW AND EVALUATION

MeteoWare CS is the modular, scalable meteorological evaluation software for measurement networks. The software package can be scaled from a simple single user system with one data logger up to a LAN/Internet distributed application with up to 999 users and up to 999 data loggers.



## How does the rain[e] work?



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## WHY AEM?

Lambrecht meteo, an AEM brand, develops and manufactures world-class meteorological sensors and measurement solutions for wind, precipitation, pressure, temperature, and humidity serving various classical meteorological and highly specific environmental and industrial end-markets. Our highest goal is to deliver state-of-the-art sensors and customer-friendly complete measurement solutions including data acquisition, maintenance, and service. With our products and the portfolio of the AEM family of innovative brands, we aim to be a globally established brand and to provide a wide range of meteorological applications with flexible and high-quality solutions for our customers' weather measurement tasks.

