REINHARDT
System- und Messelectronic GmbH

MWS 88-2Y
Portable Environmental Measuring Station

This environmental measuring station is designed for stationary and mobile use.

In its basic version, it already measures: temperature, wind chill, relative humidity, dewpoint, barometric pressure, wind direction without dead centre, also prevalent, wind speed, average wind, wind peak

- Longtime, self-sufficient digital recording and storing of measured data
- High long-time stability und high quality materials
- Big internal data logger 32 GB
- Evaluation electronics / interface in one housing
- Practice-oriented software
- Starting-up in 5 minutes
- new = Y for Push-Pull connector IP68
- Optional with 2-level heating
- Low current-consumption
- Tested in In-Circuit- and Function test
- Cycle endtest in a climatic chamber
- Service, production and calibration at one site
- Calibration (factory-calibrated with DAkkS-calibrated reference devices)

In both technique and quality, MWS88-2Y is a High-End product. Among other things, MWS 88-2Y impresses with its compact, robust structure and the digital data transmission via RS232 and optional RS422, RS485, USB, WLAN (open area up to 100 m), TCP/IP, PoE.

optional with integrated WLAN

Applications:

Automotive:
- Test and race tracks of tyre and car producers, racing

Airfields, pleasure flying, military,…

Environmental Measuring Stations
- Research, universities, schools, radio, TV, acoustics
- Road service
- Waste management

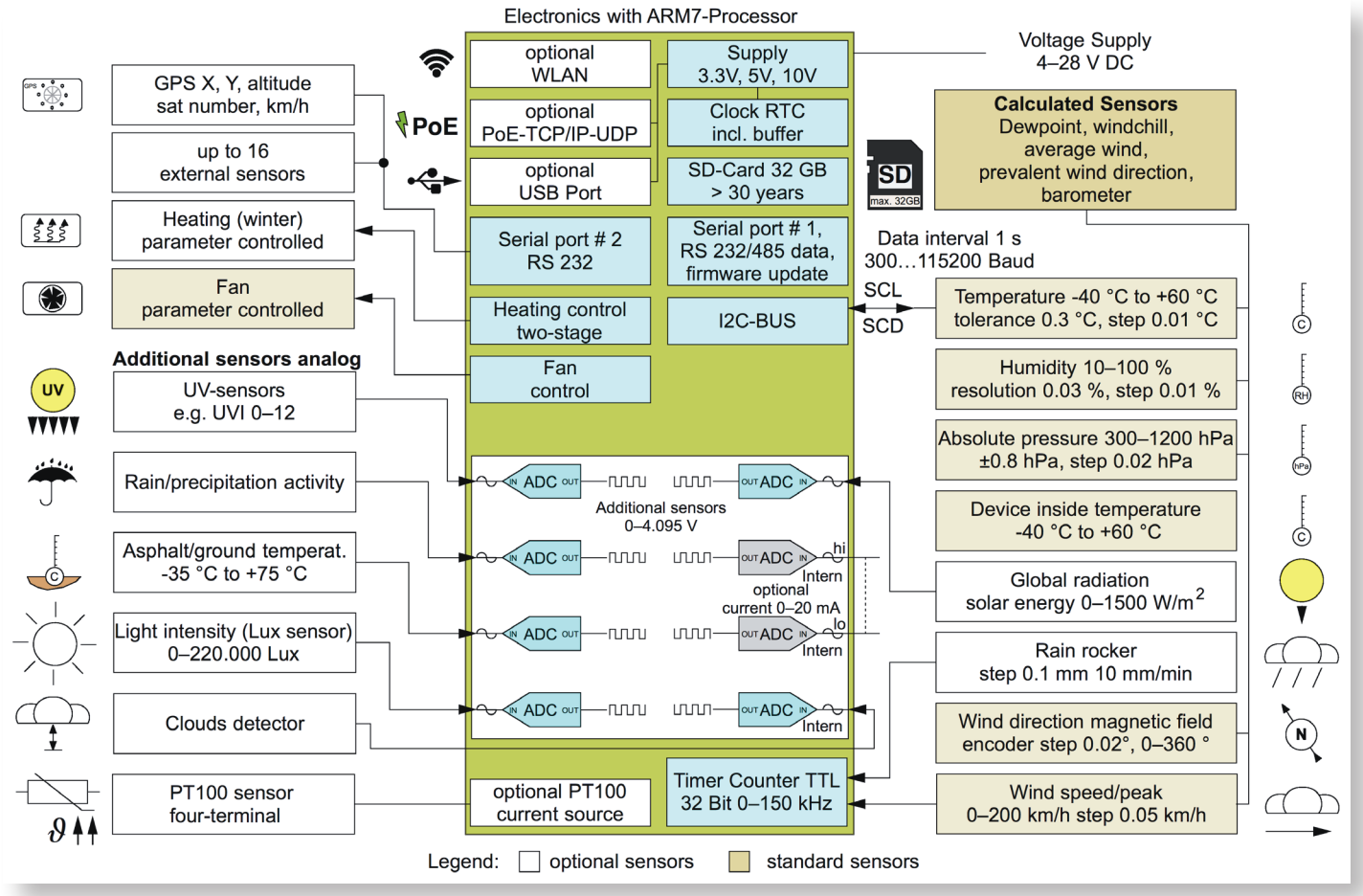
Power economy
- Photovoltaics, wind power, power plants, overhead line monitoring,…

Agriculture, food industry

Event engineereing, building management system, tourism industry

Mobility Package in an Outdoor Case

watertight IP67, fit for flying, dustproof, airtight



To avoid early failures, the electronics undergoes a burn-in of 1 week. The finished unit is calibrated in several cycles in a climatic chamber (e. g. -40 ° to +65 °Celsius). Parameters are simulated there. The reference values gained in this way become part of an interpolation table which is used for calibrating the units.

The powder-coated, white bladed housing of MWS 88-2Y protects temperature measurement from direct sunlight. This simulated instrument shelter is aerated by a system-controlled electric fan (e. g. dependent on the wind speed). This makes the measured values a lot more current and more exact.

Expansions

The basic versions of the weather station can be expanded with additional sensors. All sensors and evaluation electronics are within the housings of the weather station. If sensors are needed in addition to the basic version, our weather stations already come with high-quality sockets. When they are not needed, the sockets are protected against environmental influences by a protective cover. Even several years later, you just plug additional sensors into the respective socket and transmit the new sensor parameters via interface (Plug and Play). You will find details on the additional sensors in the diagram above. For expansions or further tasks there are free inputs between 0 and 4.095 Volt. The weather station offers a networking connection, also via internet.

MWS 88-2Y

Standard:

- Temperature
- Relative humidity
- Dewpoint
- Barometric and absoluter pressure
- Wind speed
- Wind peak
- Average wind
- Wind chill
- Wind direction WR
- prevalent WR

Optional:

* Global radiation
* Precipitation
* Light intensity
* UV-radiation
* Ground temperature
* Asphalt temperatuer
* GPS
* Heating

Data Logger
The MWS 88-2Y weather station holds a big internal data logger with non-volatile storage (SD card). At a 10 s interval it stores data of more than 30 years. Portable operation without PC is possible therefore. MWS 88-2Y have a battery buffered clock.

Data Format
The sensor identification is continuously transferred together with the measured value. The measured values are linearised within the weather station and converted into an ASCII-signal which is transmitted via RS232-interface (optionally RS422/485 and USB). The data transfer rate of the RS232-interface can be set in baud rates from 300 to 115.200. The signals are processed as standard ASCII-data, separated by comma (Example: 13:20:10,15.2.16,TE17 .7,DR946.9,WR351.6,FE70.8,WG0.0,WS0.0,WD0.0,WC17.7,) to further data processing equipment or PCs.

The MWS 88-2Y weather station reads the information of the optional GPS-mouse in the NMEA-standard and integrates it in the data string. Local altitude, time (UTC), position and speed above ground are transmitted with the data string. This information is always stored together with the environmental data in the data logger so that the measured values can always be assigned to a geographical position. The GPS-data can be displayed with the REINHARDT-software although with this software, they cannot be integrated in Routing-programs.

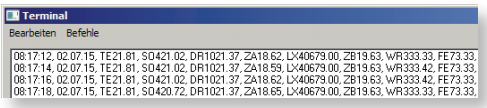
Mobility Package for MWS 88-2Y
The optional mobility package was developed so that environmental data can be recorded or evaluated on site. The standard package comes with a transport box with a tripod and foam cuttings which hold the weather station, the connection cable, the mains supply unit and other accessories. An accumulator with wiring and a connection socket at the transport case are options.

Control Outputs
There are two control outputs (1x contact, 1x0/5 V) which can be configured and which can be switched dependent on the measured values. The measured values of up to 4 sensors can be used.

Graphical Menu
The measured values are displayed graphically with the standard evaluation and display software (operation system from WINDOWS98® to WINDOWS 11®). There are three ways of displaying the values: numerically, graphically (XY-curve) and display of wind in a wind rose. The display windows can be sized individually and can be combined as you like. The stored data come in such a way that they can be read in with other software, such as e. g. EXCEL® and can then be processed and displayed. Direct output in CSV-format is possible.

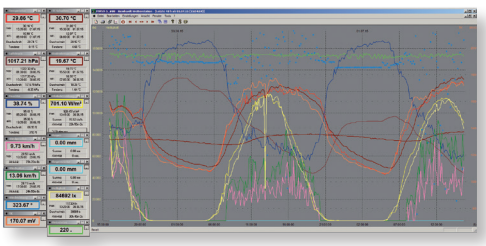
Humidity can also be displayed as dewpoint. Wind speed is given in the three measured values wind activity, gust speed and average value. There is also statistical evaluation via software. For all sensors statistical data such


Mounting a weather station



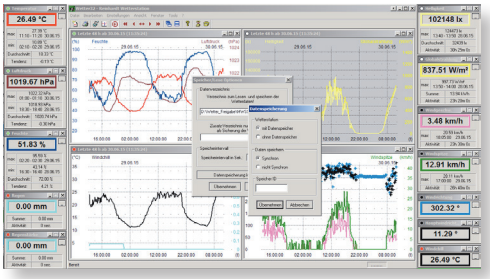
Data string for processing

Mobility package


Weather values in graphical display

as minimum, maximum, average, tendency) can be faded in. Precipitation, wind speed and global radiation are displayed with activity reports with adjustable threshold values. Global radiation can also be displayed with the total power in W/h, kW/h or MW/h. All parameters can also be displayed in other measuring units.

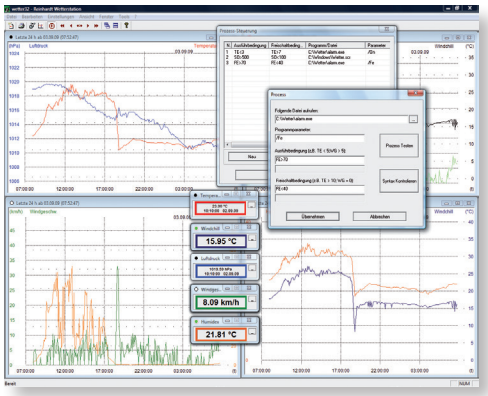
For undisturbed operation in winter a heating is recommended which is controlled dependent on temperature.



Display
selected weather parameters

Control Menu

You can set minimum or maximum limits for every measured parameter, logically link several measured values and control facilities in this way. When the limits are exceeded or come below, program steps will be executed which can activate an external relay board which e. g. controls greenhouses or venetian blinds of large buildings or whole petrochemical plants. Depending on the resp. parameter, an e-mail can be sent too.



Control menu

Displays

DMMK shows up to 12 parameters simultaneously. Its size is almost that of a sheet of paper, 20 x 30 x 2.8 cm and it is loaded with red 7-segment displays (15 mm high) so that the display is easily legible even in bright daylight. The analog meteographs with 23 cm display the weather data with 7 clocks.
With the optional **UWDS11-software** you can present the current weather and environmental data on a large scale monitor and enter text or scanned loaded pictures between the inserts for sales promotion.

DMMK
20 x 30 x 2.8 cm

HTTP-Server Link

With the latest version of the weather station software and HTTP-server link you can display the weather data of the weather stations on your homepage. Via a PHP-HTTP-interface you can send the data to a MYSQL-database and display them in defined intervals on your homepage. All the available sensors can be selected and visualised in a graph or a table. All the data stored in the MYSQL-database can be processed individually for your own applications. For comprehensive visualisations Web-programming knowledge is required.

An upload to AWEKAS.AT is integrated in the software.

For detailed information on the weather stations, additional sensors, sensors and displays please see our homepage under www.reinhardt-testsystem.de/english/climate_sensors.php.

UWDS11-Software on a big screen

IE & OE Specifications subject to change without prior notice 10/2023

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