



SEBA
HYDROMETRIE

Automatic Weather Station Type AWS

Measuring Parameter

- precipitation
- wind direction
- wind velocity
- air temperature
- air humidity
- soil temperature
- evaporation
- atmospheric pressure
- radiation



Wind Combined Sensor



Ultrasonic



Radiation Sensor



Temperature/Humidity Sensor



Rain Gauge RG50



Evaporation pan



Weather Station in the Emirates




Weather Station in the desert



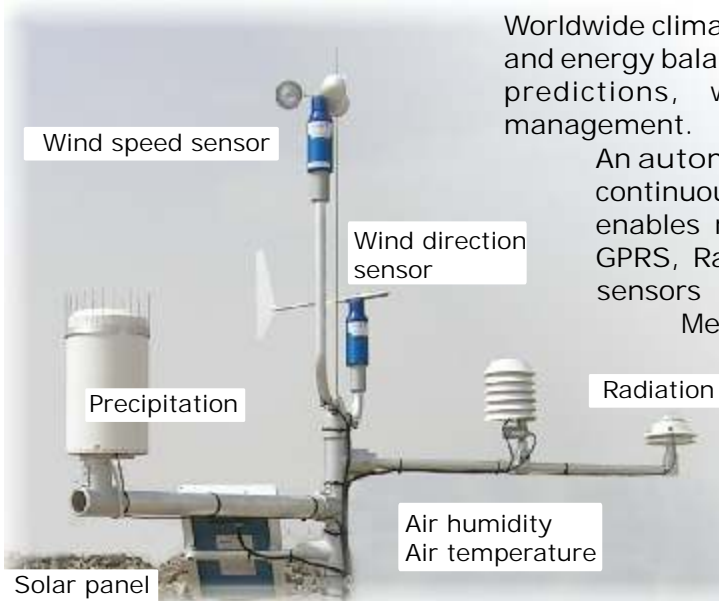
Weather Station
in the Czech Republic



Weather Station
in Italy

 We are certified
ISO 9001:2000
Certificate No. 01110505
Quality is our standard

Meteorological Sensors



Worldwide climatic data are collected for calculating hydrology and energy balance. These data form the basis for hydrological predictions, water balance research and resource management.

An automatic weather station (AWS) stores the data continuously in a data logger (e.g. MDS-5) which enables measurements from remote areas via GSM, GPRS, Radio, W-LAN, or Satellite transmission. SEBA sensors correspond to the standards of the World Meteorological Organization (WMO) and our concepts are continuously improved.

The configuration of an AWS may vary due to the purpose of the system but typically consists of a weather-proof enclosure containing the data logger (e.g. MDS-5), rechargeable battery and telemetry (optional), meteorological sensors, solar panels and a mast.

MDS-5

Data Logger for Registration of Meteorological Values

technical data:

protection class:	IP20
power supply:	3.6V lithium battery internal resp. 6...24V battery external
real time clock:	RTC +/- 1min/month
interfaces:	1xRS232, 1xRS485, 1x USB
memory:	1MB serial flash memory (480,000 measuring values)
display:	LC-display, 8-digits
key pad:	3x plastic foil key pad
power consumption:	in standby mode: 20 μ A
AD-converter:	16bit with input amplifier: max. 8 uni-polar channels (0...20mA resp. 0...2.5V) or 4 bi-polar channels (passive transducers) or mixed-up
impulse inputs:	1x BCD or 1x Graycode

optionally:

- 2x RS232-interface and 2x RS485-interface
- Bluetooth-connection
- integration of GSM/GPRS-Modem Type 740
- digital output: galvanically isolated (alarm management)
- analogue output: 4...20mA galvanically isolated (Online-channels)



Combined Ultrasonic Wind Sensor

Wind Direction Sensor / Wind Speed Sensor

technical data:

output frequency:	1, 2, 4Hz outputs per second
wind speed measuring range:	0-60 m/s, resolution 0,01 m/s
wind direction measuring range:	0-359° no dead band, resolution 1°
operating temperature:	-35 °C to +70 °C
digital interfaces (optional):	RS232 / 422 / 485 / SDI-12
NMEA O/P (Protokoll):	yes
analogue outputs (optional):	2
protection class:	IP65
material:	Luran (plastic)
dimensions/hole for mast fixing:	142 x 160 mm / 44,45 mm

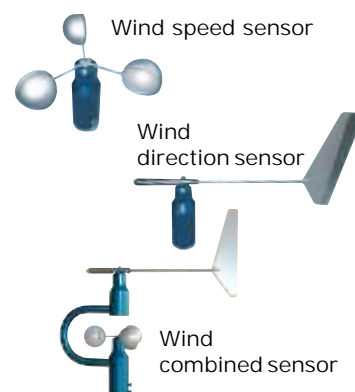


Wind

Wind direction sensor / Wind speed sensor

technical data:

Wind speed sensor:	measuring range: 0,5 - 35 m/sec.
output:	0 - 4,67 mA at a burden of 50 Ohm
dimensions:	320 mm diameter, height 250 mm
Wind direction sensor:	angle of rotation 0 - 359°
output:	0 - 1V or 0 - 5kOhm
dimensions:	820 mm diameter, 430 mm total height
Wind combined sensor:	measuring range and output see above
dimensions:	Ø820 mm, 665 mm total height
temperature-operation range:	-35 °C up to +80 °C
material:	aluminium
hole for mast fixing:	50 mm diameter



Air humidity -/ Air temperature sensor

For measuring the relative air humidity and - temperature (also available as separate sensors)

technical data:

	humidity	temperature	voltage/current-converter
measuring:	0 - 100 % r. h.	-40 °C up to +60 °C	-
ranges:	other ranges on request	other ranges on request	other ranges on request
principle:	capacitive	resistive	voltage/current-converter
resolution:	0,1 % r.F.	0,1 °C	analogue
accuracy:	±2 % (10% - 96% r.h.)	±0,3 °C (20 °C)	0,15 %
operation-temperature:	-40 °C up to +60 °C	-40 °C up to +60 °C	-40 °C up to +60 °C
power supply:	4,6 - 24 V DC	4,6 - 24 V DC	8 - 24 V DC
output:	0 - 1 V	0 - 1 V	4 - 20 mA
mounting bracket			
material:	aluminium	aluminium	IP65 in protection housing
dimensions:	Ø 12, length 116 mm	Ø 12, length 116 mm	160 mm x 80 mm x 55 mm



Atmospheric pressure

Pressure sensor, for measuring the atmospheric pressure between 700 - 1200mbar

technical data:

	voltage output	current output
accuracy:	relative error 1%	relative error 1%
operating-temperature:	-40°C up to +85°C	-40°C up to +60°C
power supply:	5 - 24 V DC	10 - 24VDC
sensitivity/output:	87mV/hPa at 12VDC	0,04 mA/hPa (0 - 20mA) 0,032 mA/hPa (4 - 20mA)
housing:	aluminium - cast housing	IP65 plastic housing
dimensions:	62mm x 56mm x 33mm	160mm x 80mm x 55mm



Soil temperature

Soil temperature sensor, for measuring the soil temperature in different depths

technical data:

material:	plastic	operation depths:	20 / 30 / 60 / 110 / 160 / 210 / 310 mm
accuracy:	0,3 °C	measuring range:	-30 °C up to +70 °C or other ranges
power supply:	5 - 24 V DC	output:	0 - 100 mV



Precipitation

Rain gauge type RG 50

High accurate rain gauge with impulse output, pick-up for datalogger-systems and remote transmission installations, unilateral ball-bearing tipping bucket with level and levelling screw. Optionally with heating.



technical data:

collecting area:	200cm ²
resolution:	1 pulse = 0,1mm precipitation
heating:	17W, 24V, forward break-over point +4°C, overlap +3°C
contact burden:	3W
switch direct voltage:	150V
switch direct current:	0,25A
output:	reed-contact impulse (potential free)
tipping bucket:	made of plastic material
dimensions:	height 346mm, diameter 205mm
weight:	3,9kg



For precipitation recording further 8 measuring systems are available. Please ask for separate leaflet.

Radiation

Global radiation sensor for measuring the global radiation in spectral range 0,3 - 3µm

technical data:

spectral range:	305..2800nm
temperature:	-40°..+80°C
measuring range:	0..2000Wm ²
temperature dependence:	<0.15%/°C
output:	approx. 15µV W ⁻¹ m ²



Evaporation

Evaporation pan "Class A"

For measuring evaporation. With lateral float tube. The integrated precision sensor gives an electrical signal, analogically to the water level of the pan.

technical data:

measuring range:	0 - 150mm	output:	0 - 1V optional 0 - 5kOhm
accuracy:	1mm	material:	V2A anticorrosive steel
temperature-operation range:	0 up to 70°C	dimensions:	Ø 1206,5mm, 254mm height
power supply:	5 - 24V	float tube:	Ø 346mm, 1000mm height

Alternatively available with ultrasonic sensor



The right is reserved to change or amend the foregoing technical specification without prior notice.



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