

All-In-One Meteo Compact Station

HDMCS -100

INTRODUCTION

The HDMCS-100 is a compact and fully integrated Automatic Weather Station (AWS) designed for quick installation and reliable environmental monitoring. This all-in-one system simultaneously measures wind speed, wind direction, temperature, relative humidity, barometric pressure, and rainfall. With its self-supporting design (complete with solar panel, backup battery, and built-in GSM modem) the HDMCS-100 operates autonomously without the need for local power supply or physical infrastructure. Its rugged mechanical structure and ultrasonic technology with no moving parts ensure long-term stability and maintenance-free operation, even in demanding environmental conditions.

FEATURES

Independent All-In-One Solution

Complete AWS including wind, temperature, humidity, barometric pressure, and rainfall measurements.

Free Cloud Communication

Fully compatible with our Cloud and easily integrable with customized platforms or external FTP servers.

Independent from Local Structures

Self-supported system featuring solar panel and backup battery. Anywhere with 4G coverage, the station automatically connects and begins transmitting data.

Accurate and Reliable System

All sensors are individually calibrated ensuring excellent accuracy and long-term reliability. Upon request, ISO 17025 certification.

Made for Heavy Duty Conditions

Self-supported system featuring solar panel and backup battery. Anywhere with 4G coverage, the station automatically connects and begins transmitting data.

Complete Set Included

Supplied with cables and connectors, solar panel, backup battery, tripod, and integrated logger with GSM communication.

CONFIGURATION & MEASUREMENT

The HDMCS-100 is designed for immediate operation after installation. Once powered, the station automatically begins recording and sending meteorological data.

- Plug-and-play setup
- Automatic GSM data transmission to FTP servers, Senseca Cloud, or custom systems
- Fully autonomous measurement thanks to the independent power system
- Suitable for remote and unattended monitoring sites

The system ensures continuous and reliable data availability, providing a professional solution for environmental analysis, hydrology, agriculture, research, and climate-related applications.



FULLY SELF-POWERED AND ALWAYS ONLINE

Solar panel, backup battery, and GSM modem ensure continuous data transmission with no local infrastructure required.



INSTANT CLOUD INTEGRATION

Automatically sends data to Senseca Cloud, FTP servers, or custom platforms for effortless remote monitoring.



HIGH MEASUREMENT ACCURACY

All sensors calibrated, ensuring precise, stable, and long-term reliable environmental data.



BUILT FOR HARSH ENVIRONMENTS

Ultrasonic technology with no moving parts and a durable mechanical structure guarantee stability in demanding conditions.

Measurement specifications

Wind Speed

Sensor	Ultrasounds
Measuring range	0...50 m/s
Resolution	0.01 m/s
Accuracy	± 0.2 m/s or $\pm 2\%$, the greatest (0...35 m/s), $\pm 3\%$ (> 35 m/s)

Wind Direction

Sensor	Ultrasounds
Measuring range	0...359.9°
Resolution	0.1°
Accuracy	$\pm 2^\circ$ RMSE from 1.0 m/s

Compass

Sensor	Magnetic
Measuring range	0...360°
Resolution	0.1°
Accuracy	$\pm 1^\circ$

Air Temperature

Sensor	Pt100
Measuring range	-40...+70 °C
Resolution	0.1 °C
Accuracy	± 0.15 °C $\pm 0.1\%$ of measurement

Relative Humidity

Sensor	Capactive
Measuring range	0...100 %RH
Resolution	0.1%
Accuracy	$\pm 1.5\%$ RH (0...90 %RH), (@ T = 15...35 °C) $\pm 2\%$ RH (remaining range)
Accuracy	$\pm (1.5 + 1.5\%$ of (@ T = -40...+60 °C) measurement) %RH

Barometric pressure

Sensor	Piezoresistive
Measuring range	300...1100 hPa
Resolution	0.1 hPa
Accuracy	± 0.5 hPa @ 20 °C

Rainfall

Sensor	Tipping bucket
Resolution	0.2 mm
Accuracy	99% up to 120 mm/h
Maximum rainfall rate	2000 mm/h
Collector area	127 cm ²

Ordering codes

HDMCS-100

Weather station composed of 2-axis ultrasonic anemometer with tipping bucket rain gauge and temperature, relative humidity and barometric pressure sensors (HD52.3DT147); data logger with 4G / 3G / GSM(2G) / GPRS connectivity (HD33LMT.4), equipped with internal 12 V / 3,4 Ah lead-acid backup battery; solar panel complete with support; tripod (HD2005.20); connecting cables and fixing accessories.

Data Logger technical specifications

Power supply	20 W solar panel integrated charger
Backup Battery	12 V / 3.4 Ah lead-acid rechargeable battery
Wind speed averaging interval	Configurable from 1 s to 10 min
Cable connection	Equipped with Plug-&-Play connectors
Operating temperature	-40...+70 °C Minimum temperature for the rainfall sensor 1 °C
Protection degree	IP 65
Case	Plastic material. Metal parts: AISI 316
Measuring interval	1, 2, 5, 10, 15, 30 s / 1, 2, 5, 10, 15, 30, 60 min
Logging interval	1, 2, 5, 10, 15, 30 s / 1, 2, 5, 10, 15, 30, 60 min
Internal memory	Circular management or stop logging if memory is full. Number of samples: >240,000
Display	Custom LCD

Dimensions



* adjustable width and height

vs2.0