

IRDAM

WST 7000 C

AUTOMATIC WEATHER STATION FOR MOBILE APPLICATION

The WST 7000 C weather station is a sturdy and compact, automatic instrument, without any moving part.

The weather sensor and data acquisition processor are integrated in an easy to use unit. The WST 7000 C station reports **wind speed, wind direction with respect to magnetic north, air temperature, atmospheric pressure, relative humidity, dew point and the direction of the station with respect to magnetic north.**

Since it is immune to shocks and vibrations, this station is very well adapted to mobile applications.

This station offers the convenience of requiring no calibration or periodic maintenance. Owing to its integrated compass, it does not need any orientation.

The IRDAM way of measuring wind speed and wind direction by using the technology of thermal field variation is well tested. It detects the variations of thermal field induced by the wind hitting a heated cylinder. It is the principle of the wet finger applied in high technology.

An electronic compass determines the direction of magnetic north. The station can be oriented in any direction; it always indicates the direction of wind with respect to magnetic north.

Station WST 7000 C is a high precision instrument which responds quickly to the variations of wind, even at very low speeds. It is corrosion proof and maintenance free.

Station WST 7000 C is a high quality instrument. All its components are integrated in a weatherproof cylinder. The microprocessor determines meteorological parameters, performs the auto test, sends the signal of measures and of their validity. This station is an intelligent device, it is capable of communicating over a multipoint network via its serial digital RS-485 output.



IRDAM WEATHER STATION WST 7000 C
European patent N° 0146584
US patent N° 4905513

Features

- High reliability
- High accuracy
- Zero threshold for wind measurement
- Resistant to severe environment
- No maintenance
- No moving parts
- Rain protected
- Permanent auto test
- Serial RS-485 output
- Transmission cycle 100 ms
- Can be installed in network



WST 7000 C

Technical Specifications

Wind Speed

Range	0 - 70 m/s
Accuracy	$\pm 5\% \pm 0,5 \text{ m/s}$
Resolution	0,1 m/s

Wind Direction

Azimuth	0-360° (no electrical gap)
Accuracy	$\pm 10^\circ$
Resolution	0,1°

Direction of the station to magnetic North

Azimuth	0-360° (no electrical gap)
Accuracy	$\pm 5^\circ$
Resolution	0,1°

Air Temperature

Range	-40°C to +60°C
Accuracy	$\pm 1^\circ\text{C}$
Resolution	0,1°C

Relative Humidity

Range	0% to 100 %
Accuracy	$\pm 3 \%$ HR from 20 % to 90 % $\pm 4 \%$ HR from 0 % to 20 % $\pm 4 \%$ HR above 90 %
Resolution	0,1 % HR

Absolute Atmospheric Pressure

Range	600 to 1100 hPa (mbar)
Accuracy	$\pm 1 \text{ hPa (mbar)}$ at 23° C $\pm 3 \text{ hPa (mbar)}$, from -40°C to 60°C
Resolution	0,1 hPa (mbar)

Dew Point

Resolution	Calculated from temperature and relative humidity 0,1 °C
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External analog input

Analog/Digital converter 12 bits
(0-10V) for external sensor

Auto Test

Permanent

Start-Up

< 20 seconds, automatic from
power-up to first valid output

Transmission Cycle

Every 100 ms

Output Protocol

RS-485
9600 bauds, half duplex

Physical Characteristics

Power Supply

Input voltage	24 VDC $\pm 6 \text{ V}$
Maxi power	< 35 W

Operating Temperature

-40°C to +60°C

Storage Temperature

-55°C to +70°C

Dimensions

Height	431 mm (16,97 inches)
Diameter	105 mm (4,13 inches)

Weight

2,9 kg (6,39 lbs)

General Features

- Measurement of wind speed
- Measurement of wind direction with respect to magnetic north
- Measurement of the direction of the station with respect to magnetic north
- Measurement of air temperature
- Measurement of atmospheric pressure
- Measurement of relative humidity
- Dew point calculation
- Permanent auto test
- Serial RS-485 output
- Weatherproof

Options

- Acquisition, display and graphics software for Windows
- Adaptable alarm software for Windows
- IRISCART software for Windows (Digital mapping to help making decision in case of chemical hazard)

Applications

Station WST 7000 C is well adapted to severe environments.

- Mobile weather stations
- Civil service
- Fire brigades
- Road weather stations
- Airports and heliports
- Electrical industries
- Chemical industries

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