

IRDAM

WST 7000

AUTOMATIC WEATHER STATION

The IRDAM WST 7000 Weather Station is a sturdy and compact automatic instrument, without any moving part.

The weather sensors and data acquisition processor are all contained in a single unit that is easy to install. The WST 7000 reports **wind speed and wind direction, temperature, atmospheric pressure, relative humidity and dew point**. This weather station can be equipped as an option with an automatic freezing protection system. It is ideal for severe environment, with shocks and vibrations.

The station offers the convenience of requiring no calibration or periodic maintenance. It's an ideal instrument for inaccessible locations.

The IRDAM technology of Thermal Field Variation for calculating wind speed and direction has proven reliable. The station detects thermal field changes caused by wind hitting a heated cylinder. It is the high technology equivalent of the traditional rifleman's wet finger held to the wind.

The WST 7000 is very accurate, responds rapidly to wind changes, and has zero starting threshold.

Its elements will not corrode or wear out, and are not affected by ice, snow or rain.

The principle has demonstrated its reliability and performance on military tanks, naval ships, alpine and industrial installations.

The WST 7000 is a high quality meteorological instrument. All components are enclosed in a weatherproof cylinder. The package contains a processor for determining weather parameters, performing auto test, and transmitting data and status information.

The WST 7000 is an intelligent device capable of communicating over a multi-point network via its serial digital RS-485 output.



IRDAM WEATHER STATION WST 7000
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

Technical Specifications

Wind Speed

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

Wind Direction

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

Air Temperature

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

Relative Humidity

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

Absolute Atmospheric Pressure

Range	600 to 1100 hPa (mbar)
Accuracy	± 1 hPa (mbar) at 23° C ± 3 hPa (mbar), from -40°C to 60°C
Resolution	0,1 hPa (mbar)

Dew Point

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

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 ± 6 V
Maxi power	< 35 W
Optional freezing protection	48 VDC / 450 W

Operating Temperature

-40°C to +60°C

Storage Temperature

-55°C to +70°C

Dimensions

Height	400 mm (15,75 inches)
Diam eter	105 mm (4,13 inches)

Weight

2,8 kg (6,17 lbs)

Standard Features

- Measurement of wind speed
- Measurement of wind direction
- Measurement of air temperature
- Measurement of atmospheric pressure
- Measurement of relative humidity
- Dew point calculation
- Analog input 0-10V
- Permanent auto test
- Serial RS-485 output
- Weatherproof

Options

- Automatic freezing protection system
- 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

The IRDAM WST7000 weather station is ideal for severe environment and for inaccessible locations.

- Road weather stations
- Alpine weather stations
- Airports and heliports
- Electrical facilities
- Chemical facilities
- Wind turbines
- Industrial applications control
- Alpine trolleys and cable cars
- Equipment for snowmaking
- Tower cranes

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