

Vaisala Road Weather Station RWS200

The Vaisala Road Weather Station RWS200 is the key component in Vaisala's road weather solutions, and is designed with the future of road weather and Intelligent Transportation Systems (ITS) in mind. The RWS200 is not just a roadside processor designed to collect, store, and transmit data from road weather sensors, but it is a platform to solve any weather challenge your agency faces. The RWS200 features an onboard user interface for a variety of data viewing needs depending on how your organization uses road weather data. The interface can also serve as a back-up access to the road weather information if the connection to the database is interrupted. One of the main reasons for having an onsite processor is the ability to store historical data if the communication to the network is lost for a long period of time. This insures that gaps in historical data will be much less likely with local data storage.

Reliable Data

One of the fundamentally important attributes of a road weather station is that data must flow from the station continuously with very minimal interruptions. In order for road maintenance decision makers to trust and use the information from the station data must be available every time critical decisions are being made. For agencies that are new to road weather systems, reliable data also means easier acceptance by your staff, because reliable data builds the necessary trust you need, especially when introducing a new tool. Several important features have been designed into the RWS200 to ensure the system produces data reliably.

One of the key enhancements in the RWS200 is through the management of power. Continuous and steady power can be a luxury for a roadside station. Power interruptions, surges caused by such things as lightning, and not to mention that each sensor attached to the weather station is getting its power from the station means that having proper power management is important.

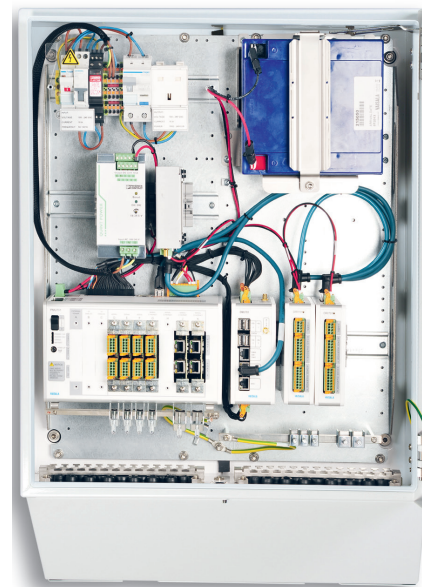
Another feature that can be a luxury for a road weather station is a quality communication link to a collection network. The RWS200 has many improved communication options to make sure data flows continuously. The RWS200 offers several more communication options and the use of more Ethernet communications and 3G/4G cellular.

The RWS200 also increases the accuracy of many of the sensors installed on the weather station, especially the pavement sensors, which greatly benefit from information from other sensors. Algorithms reside on the weather station processor because it is the logical location for such calculations to take place.

Over the years Vaisala has learned how important timely and routine maintenance is to the health of your entire road weather network. The RWS200 has added many features that greatly improve Vaisala's ability to maintain your road weather station. These features help keep the rising cost of doing business manageable and mean the weather station is even more reliable; ensuring data is there when you need to make critical decisions.

The Future In Mind

Finally, Vaisala knows that the RWS200 must last many years in the field, even when improvements and changes to sensors, communication, and power options occur that might not exist today. The RWS200 is designed so that even a unit purchased now will, in nearly all cases, be able to be updated either remotely or in the field to support additional operations as they are designed by Vaisala. Since it is near impossible to plan for innovations that have not even been invented, we have ensured the RWS200 is as flexible as possible, and we remain focused on your need for continual improvement while avoiding unnecessary costs.



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Benefits of RWS200

- Upgrading from previous versions is easy
- Improved long term return on investment
- Reliable and quality data for decision making
- Better data translates into better decisions
- Minimize economic impacts from weather
- Power management increases system reliability
- On board web interface
- Internal database for storage when communication is lost
- Battery back-up
- On site wireless network access
- Extensive communication options

Technical Data

General

Operating Temperature	-40 ... +60 °C (-40 ... 140 °F)
Storage Temperature	-60 ... +80 °C (-58 ... +158 °F)
Humidity	5 ... 100 %RH

Methods of Testing and Required Test Results

Vibration	IEC 60068-2-6
Rough Handling	IEC 60068-2-31
Shock	IEC 60068-2-27
Dry heat	IEC 60068-2-2
Damp Heat	IEC 60068-2-78
Corrosion & Salt mist	VDA 621-415
EMC (Industrial environment)	EN/IEC61326-1
Conducted emissions	CISPR 22/ EN5502/Class B
Radiated emissions	CISPR 22/ EN5502/Class B
Electrical Safety	EN/UL/IEC 60950-1/-22

Enclosure

Ingress Protection class	IP66
Size 600 (H) x 500 (W) x 200 (D) mm	
Materials	Stainless Steel AISI 316 Aluminium EN AW-6060 T6 Aluminium EN AW-6082 T6 Plastic PC/ABS
Weight	40kg

Power

Powering	90 ... 264 VAC, 45 ... 65 Hz 24 VDC (12 ... 32 VDC)
Internal battery	26 Ah/12V
Mains Fuse	10 A

Standard Sensor Options

Wind speed & direction (ultrasonic)	WMT700
Wind speed & direction (mechanical)	WA15
Pressure	PTB110
Humidity and temperature	HMP155E
Rain detector	DRD11A
Ground temperature sensor	DTS12G
Visibility and present weather detector	PWD12/22
Remote road sensor	DSC211
Remote road temperature sensor	DST111
Embedded road sensor	DRS511
Camera	Mobotix 12M

Protocols and Reports

Data

Message inputs/outputs	MES14/16
	Vaisala Observation web service

Status

Road state	Vaisala Classes EN15518-3
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Reports

Station Summary report	html
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Standard Communication Options

Wireless communication	2,5G/3G/4G wireless LAN
Other communication	LAN
Data displays	Web UI

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