



Road Weather Station RWS11

Road Weather Station RWS11 is a compact station for all basic road weather measurements. The station is designed for use as an optimization tool for winter maintenance. RWS11 is also suitable for runway condition reporting. The station can be installed onto an existing pole along the roadside to follow surface conditions and friction in real time.

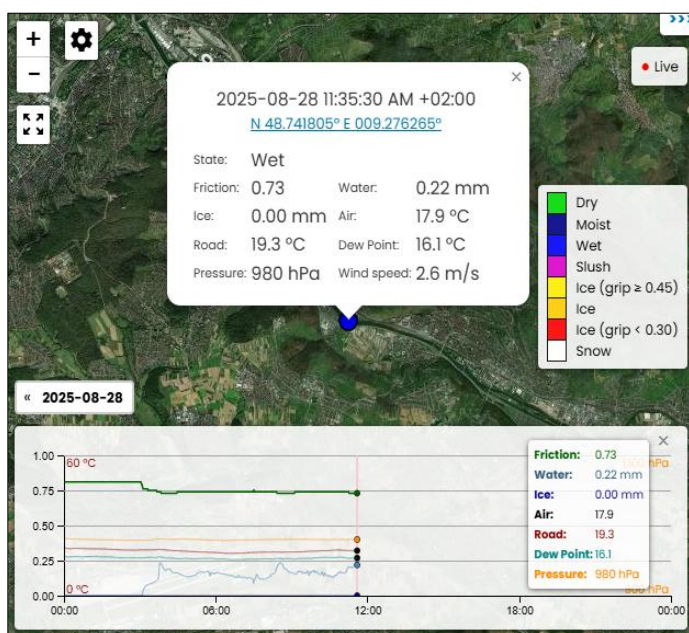
RWS11 detects all typical surface states like:

- Dry (green color)
- Moist (light blue)
- Wet (dark blue)
- Slushy (violet)
- Snowy (white)
- Icy (red)

RWS11 measures water and frozen layer thickness in fractions of millimeters up to 10 mm. Measurements of the surface condition and water/ice amount are used to estimate **coefficient of friction**. The results are communicated to selected servers. All the data can be explored with roadweather.online on a map interface.

Features and benefits:

- Road weather measurements with an optical remote sensor
- high accuracy and resolution
- measurements
 - surface state
 - contamination layer thickness
 - friction
 - surface temperature
 - dew point temperature
 - wind speed
 - pressure
- solid state design
 - no moving nor wearing parts
- easy installation
- output
 - serial RS-232
- power input 9-30 VDC
- data communication to servers by RCM Embedded GSM unit



Data presentation on the roadweather.online. The parameter chosen for display in this view is surface state. The measurements are also shown in the graph at the bottom of the screen. Measuring data is available for integration into other data management systems. The RCM Embedded control unit supports remote update of all firmware and the sensor parameters at the station.

Installation of the weather station on a roadside infrastructure pole. A battery guarantees continuous functioning of the station even if power is taken from streetlights or from some other source powered on daily for a few hours only.

RWS11 Specifications:

Station type:	Road Weather Station RWS11
Measurements:	Sensors RCM511R, RTD411 and atmospheric pressure
Measures:	Control box 300x200x150 mm, total weight of RWS11 w/o mast 8,5 kg
Material:	Control box polycarbonate, RTD411 radiation shield stainless steel
Cable:	Mains power cable, one phase (L), neutral (N), protective earth (PE)
Power supply:	9 ... 30 VDC for sensors, 230 VAC for battery charging
Power consumption:	< 10 W continuous use, < 60 W during charging of battery
Temperature range:	-40 ... +60 °C
Resolution of thickness:	0.01 mm, range 0 to 10 mm
Accuracy of thickness:	0.1 up to 1.0 mm, 10 % above 1.0 mm of water layer
Resolution of friction:	0.01
Accuracy of friction:	0.10 as standard deviation compared to a braking friction reference
Output:	RS-232 serial interface to RCM Embedded unit
Installation:	on a wooden or metallic pole or other suitable fixed location
User interface:	Data is communicated to a local server and can be browsed on the Road Condition Map at https://roadweather.online .