



Radiometer Physics
A Rohde & Schwarz Company

MAINTENANCE PLAN FOR RPG RADIOMETERS

In order to guarantee a secure operation and the best possible performance of your instrument, some preventive measures must be taken. Periodic schedules and references to the detailed instructions in the manuals will be found on page 2 of this document.

▶ **Functionality check**

The integrity of the outer cover (radome, etc.) and the integrity and responsiveness of the instrument must be ensured by the customer at all times. If there is no employee on site, this can be guaranteed, for example, by a webcam. In case of damage, the instrument shall be immediately secured against environmental influences to minimize further damage.

▶ **Cleaning**

Regular cleaning is necessary to prevent accumulations of dust, dirt, debris, salt (for deployments close to the sea or onboard a vessel), and other pollutants on the weather station, on the dew blower, on the radiometer housing, and on the microwave window. Special attention must be paid to ensure unblocked airflows.

▶ **Check for foreign objects**

Along with regular cleaning, weather station, cooler slits, dew blower and heater should be checked for foreign objects (e.g. insects).

▶ **Absolute Calibration**

The absolute calibration with Liquid nitrogen shall be performed **every 6 months**.

▶ **Consumable Parts**

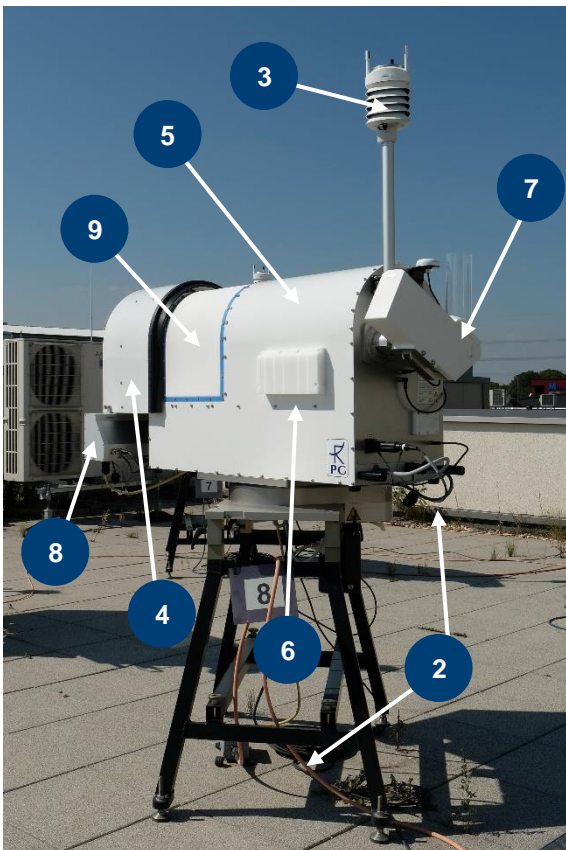
The purpose of the radome sheet is 1) to seal the radiometer interior from the environment and 2) to avoid that drops adhere on the observation window. The radome sheet on the observation window requires a replacement at least **every 6 months**, because it is degrading in time. Enhanced environmental stress (e.g. by heavy precipitation, coverage with salt/dust, strong UV radiation) may require an earlier replacement. In case of a physical damage of the sheet (e.g. by birds) it shall be replaced immediately.

Preventive Maintenance Activities

Mandatory

No.	Activity	Interval	Reference
1	Visual check	Daily	
2	Check cables for damage	6 months	
3	Cleaning of Vaisala weather station - Transmitter - Radiation shield	As needed 12 months	Vaisala WXT530 Series User Guide
4	Cleaning of dew blower	6 months	MWR STD Installation manual, Chapter 4.1
5	Cleaning of radiometer housing	12 months or earlier*	MWR STD Installation manual, Chapter 4.1
6	Cleaning of cooler slits	12 months or earlier*	MWR STD Installation manual, Chapter 4.1
7	Cleaning of IR radiometer mirror	6 months or earlier*	
8	Replace dew blower heater	4 years	MWR STD Installation manual, Chapter 2.6.2
9	Exchange radome sheet	6 months or earlier	MWR STD Installation manual, Chapter 4.4.3
10	Absolute calibration	6 months	MWR STD Installation manual, Chapter 4.3

* Locations with high amounts of dust, soot and similar aerosol load may require shorter intervals



Recommended

Activity	Interval	Reference
Replace PTU module of the Vaisala weather station	2 years	Vaisala WXT530 Series User Guide
Replace radiation shield of the Vaisala weather station	When it looks worn or yellow	Vaisala WXT530 Series User Guide

Further Information

Spare parts and consumables can be ordered via:

[remotesensing- sales@radiometer-physics.de](mailto:remotesensing-sales@radiometer-physics.de)

In case technical support is required, please contact:

[remotesensing- service@radiometer-physics.de](mailto:remotesensing-service@radiometer-physics.de)