

Vaisala Present Weather and Visibility Sensors PWD Series

The right visibility data for maritime use, at the right price



Key benefits

The right instrument for the right purpose

The range of visibility instrumentation in the PWD Series ensures the right combination of technology and sensors. This allows you to capture the precise data that satisfies your navigation and planning objectives without overspending on capabilities you don't need.

Easy installation and expandability

PWD sensors are compact and lightweight (less than 1m long), and are factory-calibrated and plug-and-play ready. They can function stand-alone or as part of an Automated Weather Observing System (AWOS) with flexible mounting on existing masts. Measurement capabilities for all PWD models have easy and economical upgrades to meet your changing measurement needs over time.

Accuracy in all conditions

Vaisala's pioneering sensor design enables the PWD Series to provide constant, reference-grade performance unmatched by other forward scatter technology — even for intense precipitation and mixed precipitation.

Economical operation and maintenance

The rugged design uses no movable or consumable parts and is well protected against contamination with the optical components pointed downward. Hoods protect the lenses against precipitation, spray, and dust. Its weatherproof design provides accuracy, reduces maintenance, and delivers low life cycle costs.

The visibility at sea depends on many factors, such as humidity, wind speed, temperature, and precipitation. It may sound simple, but any meteorologist will tell you that visibility is one of the hardest parameters to accurately measure and forecast.

Vaisala Present Weather and Visibility Sensors PWD Series is designed to meet the unique challenges of visibility and present weather measurement for onshore and offshore maritime operations, including harbors, coastal areas, ships, and offshore platforms. Vaisala's PWD Series is the industry standard, approved by major oil companies.

The PWD Series delivers a mix of visibility reporting range (Meteorological Optical Range or MOR), characterization of reduced visibility, precipitation type identification, precipitation accumulation/intensity measurement, and report formats (WMO, NWS code tables). It also includes analog and serial line output and optional hood heaters for winter conditions. The PWD Series provides off-the-shelf accuracy and reliability and can be easily and economically upgraded. Wherever visibility reporting is necessary, Vaisala offers a cost-effective and reliable solution that grows to meet your measurement needs.

PWD Series at a glance

Applications

- Feeding visibility and present weather into shipboard weather systems to optimize route and operational planning.
- Informing harbor travel protocols to ensure safe operations in poor visibility.
- Monitoring conditions around offshore platforms for effective coordination of supply vessels, helicopters, and other operational support traffic.
- Generating detailed forecasts to inform early warning and safety protocols.
- Integrating visibility and present weather capture capabilities into an onshore, ship, or offshore platform AWOS.
- Calculating visibility information that ships can use to determine safe passage routes into and out of harbors.

Key features

Exceptional data capture that measures visibility in maximum ranges from 2 to 50km (1 to 27NM) MOR. Advanced models also capture present weather information.

Rugged, weather-proof design that ensures low maintenance need and high data availability.

Down-looking sensor hoods protect the optical surfaces from external contaminants.

Forward scatter visibility sensors for greater accuracy in calculating visibility.

Capacitive RAINCAP® precipitation sensors in advanced models detect multiple precipitation types, intensity, and accumulation.

Optional hood heaters prevent the buildup of ice and/or snow in the optical path.

	PWD10	PWD12	PWD20	PWD22	PWD50	PWD52
Meteorological Optical Range (MOR)	2 km (1 NM)	2 km (1 NM)	20 km (11 NM)	20 km (11 NM)	50 km (27 NM)	50 km (27 NM)
Capacitive RAINCAP sensor		●		●		●
Indicates reduced visibility cause		●		●		●
Accurate present weather reporting		●		●		●
Weather type identification		4 types		7 types		7 types
Reports precipitation intensity and accumulation		●		●		●

Why Vaisala?

Experience with perspective

Having launched our first forward-scatter sensor in 1990, Vaisala is a trusted partner in visibility and precipitation sensors. Our unique understanding of weather measurement has made Vaisala a leader in maritime and aviation weather observation solutions. The technologies we offer are the result of our own R&D, and our solutions and services are used in environmental monitoring systems, helideck monitoring systems, and marine weather reporting worldwide. Our extensive expertise and global presence — with more than 20,000 devices in over 120 countries and all seven oceans — makes us your global maritime weather expert.

Support to count on

Look to Vaisala for dependable support, project capabilities, and training so you can get the most from your system. We provide project management, installation, training, acceptance testing, engineering, consulting, and ongoing service agreements. With decades of experience providing the best technologies and the finest support, Vaisala's philosophy of partnership is unmatched in the industry.

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