

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?

Weather and environmental insights are the greatest catalysts for successful maritime operations. From sensors to systems and digital services, Vaisala technology empowers maritime leaders to confidently meet new challenges and harness new opportunities.

Vaisala is driven by passion, relentless curiosity, and the desire to create a better world, as reflected by our guiding principles for maritime:

1. Master the weather, master the sea

The weather affects maritime operations—whether onshore or offshore—more than any other factor. It also reveals the vast potential of the sea. We enable maritime leaders to harness that potential while navigating pressing challenges driven by climate change.

2. Oceans of insight

The maritime industry is a complex ecosystem, with valuable information to be found everywhere. Our integrated, end-to-end solutions turn that information into practical insights for new competitive advantages.

3. Currents of innovation

Maritime is evolving, and the currents of innovation are taking us to a more sustainable and weather-aware industry. Vaisala markets leading-edge solutions backed by our unmatched legacy of scientific leadership.

4. Champions for sustainability

We help provide a proactive, informed approach to navigating sustainability initiatives and saying ahead of regulatory pressures. Along the way, we protect and strengthen the ecosystems of which we are all part.

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