

SafePilot Base Station

Achieve centimeter-level positioning accuracy with the SafePilot Base Station. It provides the reliable, real-time GNSS correction data essential for the entire suite of SafePilot products, enhancing navigation with superior stability and accuracy.

By seamlessly connecting with the SafePilot ecosystem, the Base Station enriches the platform with critical data layers. It integrates an AIS receiver to collect and distribute real-time vessel identification and traffic data, allowing SafePilot users to combine precision positioning with live AIS targets. This unified data stream supports safer, more informed decision-making in busy waterways.

Engineered for dependable 24/7 operation, the SafePilot Base Station is compact, rugged, and easy to install, ensuring consistent performance in any environment.

BENEFITS

As a vital component of SafePilot OPS, the Base Station combines flexibility and performance. Its modular design allows for effortless expansion with additional data sources like weather stations, tailoring the integrated system to your specific operational needs.

A key advantage is the creation of a private, dedicated infrastructure, securing the data integrity essential for safe navigation. This mitigates the risks associated with public services, such as uncertain accuracy or sudden disruptions.

With Power over Ethernet (PoE) connectivity, installation is fast and hassle-free. Compact, robust, and versatile, the Base Station is the ideal foundation for complete integration with the SafePilot suite, empowering you to navigate with confidence and precision.

FEATURES

- Independent GNSS corrections
- Supports all global GNSS systems
- All frequency bands
- Scalable and flexible
- PoE+ enabled
- Add-on modules and sensors to suit your operational priorities



FEATURES	STANDARD	OPTIONAL
GNSS reference station	✓	
Ethernet connection	✓	
AIS receiver	✓	
Cellular connection (prepared for activation)	✓	
NTRIP Connection/Data Server/Cloud	✓	
Weather station - Wind	–	✓
Weather station - Comprehensive (Wind + temperature, rain and hail, barometric pressure, relative humidity)	–	✓
CRPA antenna (anti-jamming)	–	✓
Solar power	–	✓

SEAMLESS SHIP-TO-SHORE INTEGRATION WITH SAFEPILOT



At Trelleborg, we understand safe, efficient port operations start with precision and trust. The SafePilot Base Station delivers reliable, centimeter-level navigation—enabling you to protect people, assets, and the environment, even in the most demanding conditions.

Designed for flexibility, its modular architecture grows with your needs, allowing seamless integration of AIS traffic data and local weather analytics. With a secure network you fully control, SafePilot Base Station ensures data integrity and round-the-clock availability.

SafePilot Base Station represents our commitment to partnership, sustainability, and smarter navigation—helping your team operate with confidence, every day.

SPECIFICATIONS

SAFEPILOT BASE STATION	
Power	PoE+ (802.3 af / 802.3 at)
Connectivity	Ethernet standard (10/100 M) Cellular (LTE-M) optional
Cable entry	Bottom entry, sealed glands
Cloud interface GNSS corrections	Shared via NTRIP
Cloud interface peripherals (i.e. AIS, weather)	Shared via SafePilot Cloud
Mount	Easy installation with all antennas and enclosures mounted on a single pole
Total weight	12.5 kg after final assembly (final weight may vary depending on selected options)
Operating temperature	-20°C to 60°C
Storage temperature	-30°C to 75°C
Relative humidity	Up to 100% condensing
Ingress protection	IP67

AIS	
AIS	Receive only
AIS receiver sensitivity	<-117 dBm
AIS Range	>40 NM

GNSS	
Supported GNSS systems	GPS, Galileo, GLONASS, BeiDou
GNSS bands	L1, L2, L5 and L6
Output format	RTCM v3.x, 1 Hz update rate

WEATHER DATA			
Wind speed	±3%	Wind direction	±3°
Wind gust	±3%	Wind speed/gust range	0-60 m/s
Wind direction range	0-360°	Wind speed/gust accuracy	±3% at 10 m/s
Wind direction accuracy	±3.0° at 10 m/s	Temperature range	-52 to +60°C
Temperature accuracy	±0.3°C at 20°C	Relative humidity range	0 to 100 %RH
Rain and hail	Cumulative accumulation Configurable duration	Relative humidity accuracy	±3% RH at 0 to 90% RH ±5% RH, at 90 to 100% RH
Barometric pressure range	600 ... 1100 hPa	Barometric pressure accuracy	±0.5 hPa at 0 ... +30 °C ±1 hPa at -52 ... +60 °C

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FIND OUT MORE



Trelleborg leverages in-depth materials and applications expertise with early market insights, making the Group a world leader in engineered polymer solutions. We offer a unique portfolio covering a broad range of applications – even the most complex ones.

Trelleborg Marine and Infrastructure combines advanced polymer engineering with smart technology to serve the most demanding marine, port, and built infrastructure environments worldwide. Our portfolio — spanning marine fenders, docking and mooring, navigation and piloting, built infrastructure, gas transfer, and structural solutions for offshore and floating installations — is designed to improve safety, operational performance, and long-term sustainability for owners and operators at every stage of asset life.

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