CEETIDE MAX-P™

Portable Radar Tide Gauge

The CEETIDE MAX-P™ is the next generation in portable radar tide gauges. Boasting rapid installation, accurate recording and easy data access, the CEETIDE MAX-P™ is an essential part of your tide monitoring system.

Precision

Two high accuracy sensor channels permit simultaneous tide and wave monitoring. Accurate timing is maintained via regular GNSS time synchronisation.

The precise, optional GNSS receiver in the CEETIDE MAX-P™ enables the vertical offset between tide gauge datum and the ellipsoid to be measured whilst also facilitating the long-term monitoring of sensor movement and subsidence.

Web Interface

The CEETIDE MAX-P™ provides an intuitive web interface for remote monitoring, configuration, data management, and software updates.

Rugged Construction

Intended for Short to medium term installations, the CEETIDE MAX-P™ is housed in an virtually indestructible Pelican case with quality connectors, making it highly portable and ready to withstand the harsh marine/industrial environment.

Designed with an extended operating temperature range, the CEETIDE MAX-P™ also has a high tolerance to electrical interference and power fluctuations.

Connectivity

The CEETIDE MAX-P™ system can interface with:
• Up to two precision radar tide sensors
• PoE security camera
• Cellular router
• Victron solar controller via VE.Direct
• UHF telemetry radio

www.ceehydrosystems.com

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Web Interface

Monitor

The CEETIDE MAX-P™ system hosts a web interface.

From the home page, start and stop recording, observe real-time tide and wave data, and monitor the solar and battery operation.

Closely monitor the system without travelling to site when you connect your CEETIDE MAX-P™ via ethernet connection or external VPN network device.
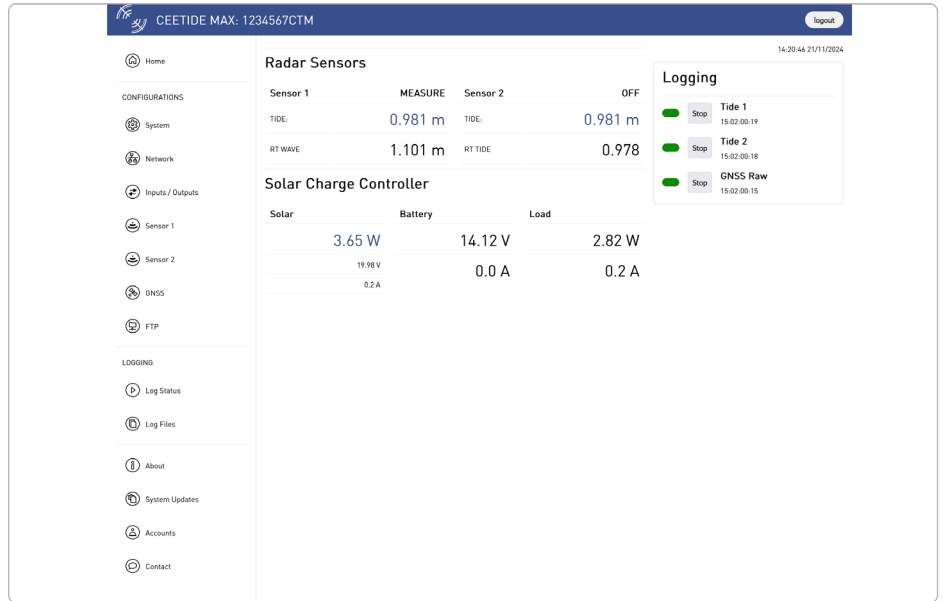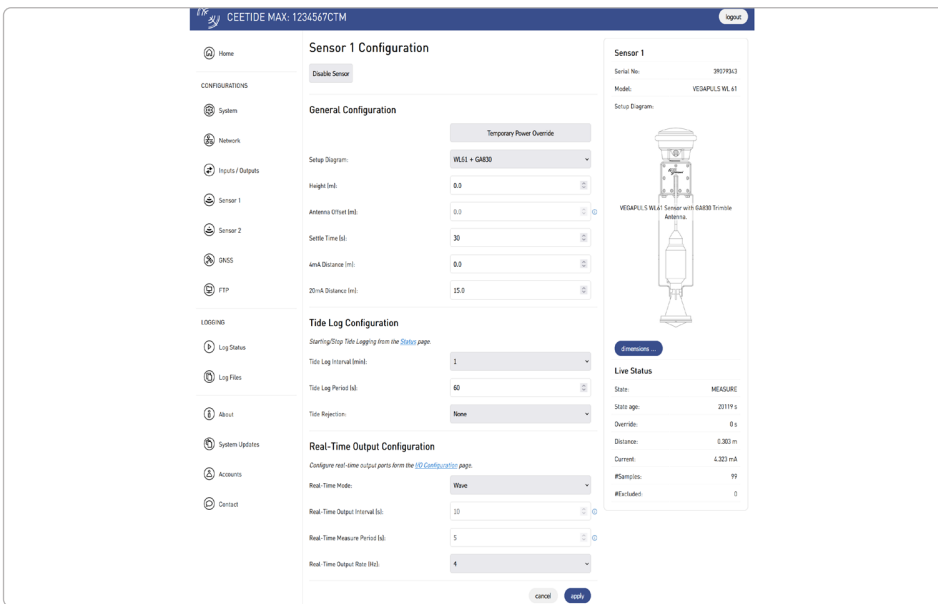

Configure

Easily configure the CEETIDE MAX-P™ radar sensor(s) parameters, real-time output, and logging.

Configure the GNSS receiver raw data recording through the CEETIDE MAX-P™ GNSS configuration screen.

Transfer data files via FTP to a designated host.

Front Panel

On-site configuration and monitoring can also be performed using the CEETIDE MAX-P™ touchscreen display.

LED indicators report system status.

Download tide logs via the USB port.

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System Diagram

Wireless Connectivity

Output real-time data via a Satel radio modem or cellular modem.
Connect via direct ethernet connection or external VPN network device for web interface connectivity.

Instant Data Accessibility

The network connection allows the recording and viewing of live tide and wave data as well as the option to download stored data to your PC. USB connectivity on the unit is available for on-site downloading of stored data.

GNSS Receiver

Use the optional integrated geodetic receiver to easily establish a high accuracy height datum via post processed raw GNSS data. The receiver ensures tide accuracy and timing precision in long term installations.

Radar Sensor/s

Configure system with up to two independent radar sensors for measuring tide and wave data. Choose from short (15m) and long (30m) range sensor options. Cable connection up to 25m.

Web Interface Configuration

Configure and monitor the system remotely through the web interface. Options to configure and enable the radar sensors, GNSS receiver and to monitor solar power and battery load.

Power

Supply power to the system through mains connection or a combination of solar and battery. Monitor the solar charge controller web interface.

Power PoE Devices

Power over Ethernet connections allow additional devices, such as a security camera and cellular modems to be integrated into the system.

LCD Touch Screen Display

The touchscreen display allows on-site configuration, viewing, and downloading of data with password protection security.

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General Specifications

Dimensions

CEETIDE MAX-P™	340 x 295 x 152 mm (W x D x H) 13.4 x 11.6 x 5.9 inches 3.7 kg (8.2 lbs)

Environmental

Operating Range	-10°C - 60°C (14°F - 140°F)
Storage Range	-30°C - 70°C (22°F - 158°F)
Ingress Protection Rating	IP67

Power

Input Supply Range	11.0 V to 33.6 V_{DC}
Current Consumption (12V)	Sleep: < 20 mA
	Typical: 555 mA
	Maximum (not including PoE): 1200 mA
	Maximum (including PoE): 4200 mA
Maximum PoE Output	15.4 W max. (per channel)

Connections

LEMO (1K 2-Pin)	External 12/24V_{DC} power input
LEMO (1K 6-Pin)	4-20mA/HART sensor I/O
LEMO (1K 5-Pin)	RS-232 real time output
LEMO (1K 5-Pin)	RS-232 spare
LEMO (0K 4-Pin)	Victron VE.Direct interface to MPPT 75/15
TNC	GNSS antenna with 5V active supply
LEMO (2K 8-Pin)	Ethernet / Active POE
LEMO (2K 8-Pin)	Ethernet / Active POE
USB	Data transfer and firmware upgrades

Communications

Ethernet	2 x 10/100Base-TX (802.3u) with PoE PSE (802.3af) with integrated Ethernet switch
RS-232	2 x 3-wire with 12V 100mA relay drive for activating external equipment (e.g. UHF radio transmitter)
TTL UART	Isolated Victron VE.Direct (requires 5V external power)

Front Panel

Touchscreen	4.3" backlight LCD
Buttons	ON/OFF, DISPLAY and LOCK
LEDs	Power, Mode, Sensor and Error

Data Options

Logged	Daily tide recorded files
Standard Real Time	Live tide data Configurable up to 1Hz
Wave Real Time	Live wave data Configurable up to 20Hz

Internal GNSS Options

Trimble BD990	336 tracking channels GPS, L1/2/5, GLONASS L1/2/5 Trimble RT27 binary format for post-processing

Radar Probe Specifications

Short Range:

Distance	0.5-15 m (1.64-49.21 ft)
Frequency	80 GHz
Beam Angle	8°
Cable Length	Up to 25 m (82 ft)

Long Range:

Distance	0.5 - 30 m (1.64 - 98.5 ft)
Frequency	80 GHz
Beam Angle	4°
Cable Length	Up to 25 m (82 ft)

Sensor Inputs

Channels	2
Type	4-20mA with HART master
Configuration	For use with 2-wire or 3-wire loop powered devices
Nominal Signal Range	4-20 mA
Measurement Range	0-25mA
Resolution	1µA (1/25000)
Measurement Error	<± 0.02% full scale
Sample Rate (per Channel)	20 Hz
Input Resistance	230 Ω @ 20mA min.
Current Loop Supply	(2-wire): 16V @ 22mA min. (3-wire): 21V @ 22mA min.
Isolation	500V channel-to-channel
Tide Filtering	None, 1σ or 2σ rejection

Power to each channel is independently managed according to programmed schedule to minimize probe power consumption.

Recording Capabilities

Internal Memory	64GB industrial-grade flash
Tide Recording	5+ years of tide readings
GNSS Raw Recording	Trimble RT17 / RT27
GNSS Sample Rate	1Hz

Weather Sensor Intergration

VAISALA WXT536	Rainfail, wind speed, wind direction, air pressure, temperature, humidity

On request we can add custom sensor Intergration

- specifications are subject to change. - v2500901

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