

CEETIDE MAX™

Precision Radar Tide Gauge

The CEETIDE MAX™ is the next generation in radar tide gauges. Offering easy installation and accurate recording, the CEETIDE MAX™ provides data confidence through the in-built Trimble GNSS receiver.

Precision

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

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

Web Interface

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

Rugged Construction

Intended for long term installations in marine or industrial environments, the CEETIDE MAX™ is housed in an IP65 enclosure and uses quality connectors.

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

Connectivity

The CEETIDE MAX™ 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



CEETIDE MAX™

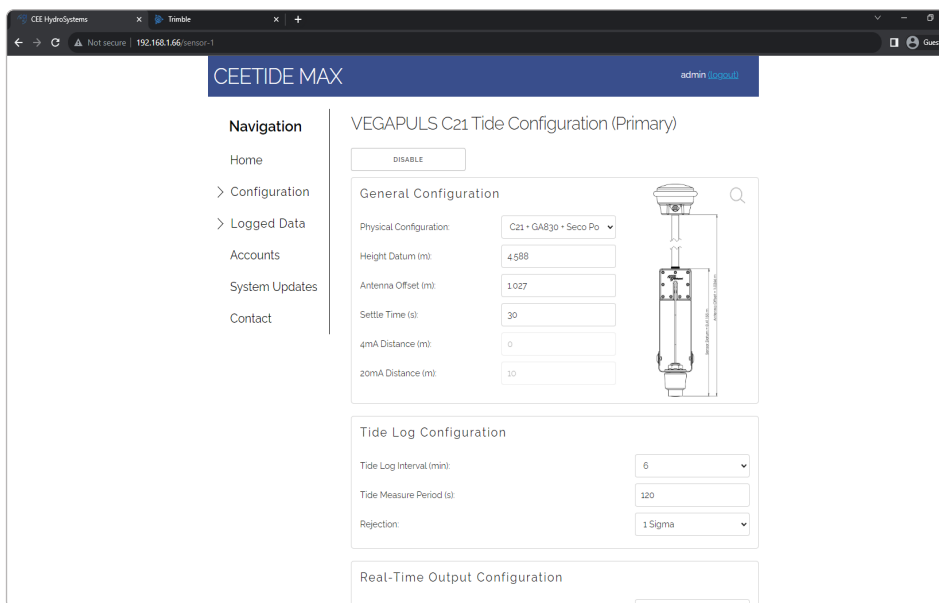
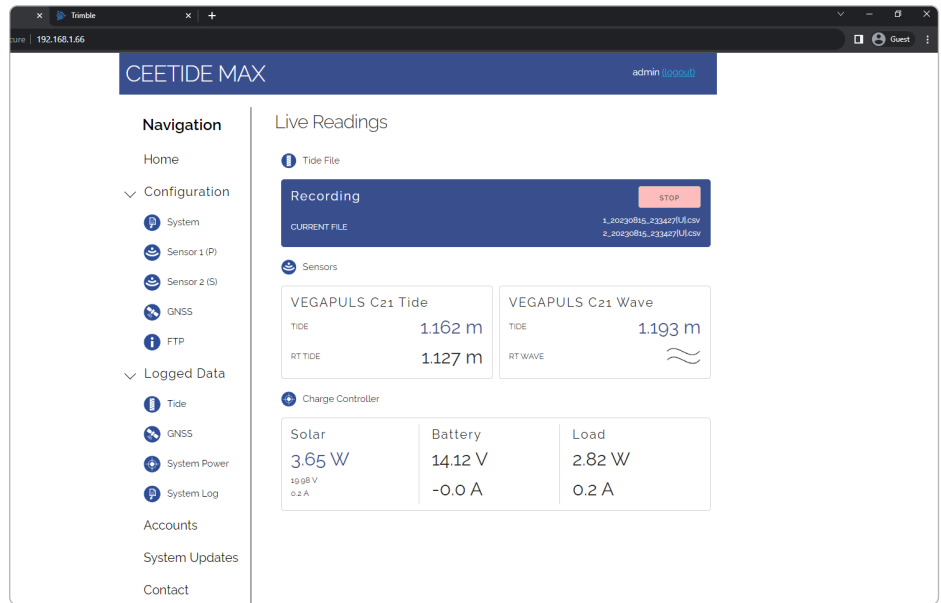
Web Interface

Monitor

The CEETIDE MAX™ system hosts an Ethernet 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.



Configure

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

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

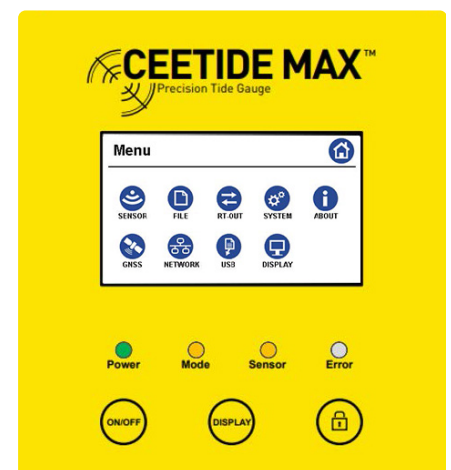
Transfer data files via FTP to a designated host.

Front Panel

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

LED indicators report system status.

Download tide logs via the USB port.



CEETIDE MAX™

System Diagram

Wireless Connectivity



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

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 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.

CEETIDE MAX™

General Specifications

Dimensions

CEETIDE MAX™	214 x 90 x 288 mm (W x D x H) 8.4 x 3.5 x 11.3 inches 2.9 kg (6.3 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	IP65

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 Power per Channel	15.4 W max. (per channel)

Connections

LEMO (1K 2Pin)	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 (1K 2 Pin)	Victron VE.Direct interface to MPPT 75/15
TNC	GNSS antenna with 5V active supply
RJ45	Ethernet / Active POE
RJ45	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



- specifications are subject to change. - v2332401

AUSTRALIA OFFICE

CEE HydroSystems
Unit 1, 12 Cecil Rd,
Hornsby, Sydney
NSW 2077 Australia
t: +61 (0) 2 9482 5880
e: sales@ceehydro systems.com

NORTH AMERICA OFFICE

CEE HydroSystems USA, Inc.
701 Palomar Airport Road
Suite 300, Carlsbad
CA 92011 USA
t: +1 760 492 4511
e: sales@ceehydro systems.com

