CCELL

Sense - Electronics

LISTEN TO OUR OCEANS

Plug and Play, Adaptable, Underwater Sensors

At the heart of every CCell reefs are the CCell sense power management and data collection modules.

Each unit precisely controls the electrolysis process for rock accretion around the reefs. The units also monitorrock growth, wave attenuation, and nearby marine life.

Setup

The system comprises of a Central Control Unit (CCU) and multiple Power Regulating Modules (PRMs). The CCU remains onshore and manages communication over WiFi or mobile networks while the PRMs are placed adjacent to each reef units.

Active Monitoring

CCell electronics utilise mobile networks to report data from anywhere in real time. Our data pipeline allows multiple concurrent producers and consumers of data 24/7, globally.

Data Collection

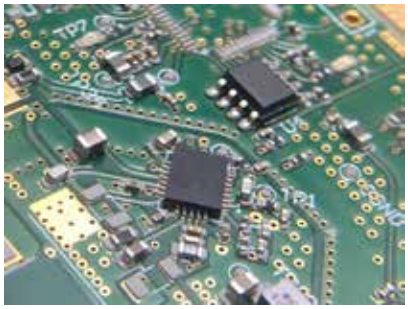
By default, CCell Sense collects:

- Voltage and current output - typically for electrolysis, but can be used for other applications
- Temperature
- Rock Growth

Onboard alerts support detecting faults as they occur. Clients can design and attach custom sensors, which could additionally collect images, audio, etc.

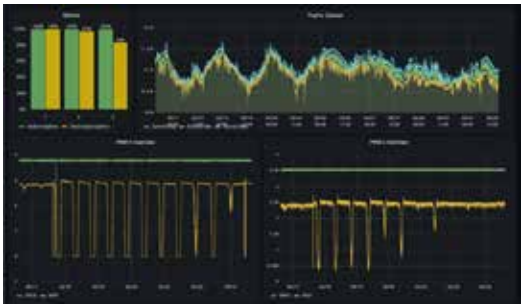
Easily Extendable

The PRMs interfaces includes RS485 as standard, but can be extended to include Bluetooth or NFC to provide wireless underwater connection of sensors.



PRM Circuit board

PRM prior to being sealed



CCell data monitoring platform tracking real time data from multiple PRMs

Max Power Usage	250W
Voltage Input	40V - 150V (AC or DC)
Power Source	Main (AC) or Solar (DC)
Voltage Output	0.3V - 12V
Max Current Output	20A
Max Current Input	6A
Water Rating	IP68 up to 10m for 5 years
Dimensions	150 x 90 x 40 (mm)
Interfaces	RS485, NFC (extra), Bluetooth (extra)

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