

# SIDEKICK INSTRUMENT HUB

Model: PERFORMANCE

## Overview

The SIDEKICK Instrument Hub is a user-friendly, reconfigurable, and autonomous data handler designed to support advanced oceanographic tasks and missions. Its core function is to streamline the deployment of oceanographic sensors with minimal setup and technical expertise required.



## Features

The SIDEKICK is a versatile platform for powering, controlling, and logging data from multiple marine instruments, including both Serial RS232 & Ethernet devices.

It can operate as a fully autonomous unit or as a hybrid system that streams real-time data when a cable connection to topside is available.

All instrument data is logged with a unified timestamp to ensure correlation across sampling channels. Monitoring routines can track data streams and system status. A "Sneak Peek" feature allows users to review a snapshot of the most recent profile moments after retrieval.

The 4-relay board enables selective powering of instruments as needed.

6 serial ports and 1 full GigE Ethernet connection allow integration of a large variety of sensors. The system includes 2TB of storage, and supports the addition of a removable 4TB SSD.

Designed with flexibility in mind, the SIDEKICK encourages sensor reconfiguration and upgrades to match evolving mission needs.

SIDEKICK Instrument Hubs run on Sixclear JADE, a modular, publisher-subscriber-based data handling environment that empowers users to develop sophisticated acquisition and control routines with ease.

## End-caps Interfaces

Control End-cap: Status LED light | COMM. port | POWER port | ON/OFF switch | START switch

Instruments End-cap: 7 x MCBH connectors of your choice, set during initial configuration, that can be changed to match evolving needs



# SID EKICK PERFORMANCE

## Mechanical

- Depth Rating: 2,500 meters  
Hard anodized 6061-T6 aluminum  
Weight: 19 Lbs (in air), 4.0 Lbs (in water)
- Depth Rating: 200 meters  
PEEK Enclosure  
& Super Duplex Stainless Steel End-caps  
Weight: 19 Lbs (in air), 4.0 Lbs (in water)
- Dimensions: 21" length × 6.0" outer diameter
- End-caps O-rings: #243 and #244

## Power

- Power Input: 13–50 VDC
- Power Consumption: 8 to 15 W typical

## Electrical Protection & Control

- Relay Control: 4-channel relay board
- Protections: Reverse polarity protection
- Initial Inrush current limiter
- Handles difficult cyclic power load

## Interfaces & I/O

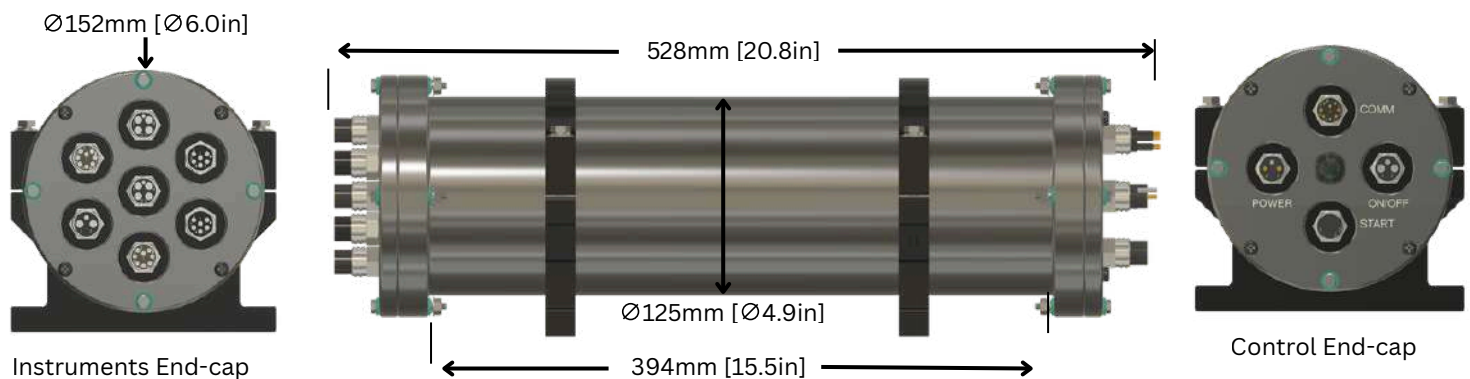
- 7 x user-specified interface connectors
- 6 x serial I/O:
- 1 x 10/100/1000 Mbps Ethernet port

## Operating System

- OS: Thinned-out image of Windows IoT Enterprise

## Processing & Storage

- Processor: Intel Atom or Pentium (2 cores, 1.94 GHz)
- Memory: 4 GB DRAM
- Graphics: Integrated Intel GPU
- 2 TB Internal Storage



## Hardware Options:

- GIOTA with Pentium Processor (up 4 cores, 2.5 GHz)
- 4TB Samsung SSD
- 3 Isolated Power Rails requires you selection (2 choices) of 12V, 15V and/or 24V in addition to the main 12V circuit

Example of an Executable Sixclear JADE Application could include the following modules ([sixclear.com](http://sixclear.com)).

- 3 x "Visa plugin" to connect to any Serial Instruments
- 1 x "Basler camera plugin" for imaging
- 1 x "Relay Manager plugin" to turn power On/OFF to instruments
- 1 x "Switch plugin" to start the logging sequence
- 1 x "Status LED plugin"
- 1 x "State Machine plugin with error monitoring" for automated recording
- 1 x "Sneak Peek Aggregator plugin" for quick visualization of data upon retrieval



## Compatible with:

- Bellamare PowerCore Battery Packs
- Bellamare ISIIS-DPI Plankton Cameras
- Bellamare MV-200 Industrial Machine Vision Cameras