

Constellation

Building a Control and DAQ System

- Control and DAQ System for lab setups, testbeam and small experiments
- Main features mostly implemented, expanding to new users
- Example: temperature monitor for

MADMAX @ UHH



Constellation MissionControl v0.2 (Equuleus)

Constellation
edda

Satellites
5

State
New

Run Identifier
run_0 (next)

Run Duration
00:00:00

Configuration

Configuration:
Log:
Run Identifier: Sequence:

Control

Satellite connections

Type	Name	State	Connection	Last response	Last message	Heartbeat	Lives
Sputnik	Two	New	tcp://10.12.22.123:39141	SUCCESS		5000ms	3
Sputnik	Three	New	tcp://10.12.22.123:44227	SUCCESS		5000ms	3
Sputnik	One	New	tcp://10.12.22.123:37211	SUCCESS		5000ms	3
RandomTransmitter	Sender	New	tcp://10.12.22.123:41139	SUCCESS		5000ms	3
EudaqNativeWriter	Receiver	New	tcp://10.12.22.123:36735	SUCCESS		5000ms	3

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Documentation Improvements

- Split between three separate guides for:
 - Operators – no code
 - Application Developers – few internals
 - Framework Developers – reference
- Structure in each guide:
 - Tutorials
 - Concepts / Functionality
 - How-To Guides

The screenshot shows the 'Constellation Operator Guide' page. The header includes the 'Constellation' logo and navigation links: News, Satellites, Operator Docs (active), Application Development, and Framework Reference. A search bar and social media icons are also present. The left sidebar contains a 'Section Navigation' menu with categories: Get started (Installing from Source, Installing from PyPI), Tutorials (Starting & Controlling a Satellite, Controlling with MissionControl), Concepts (The Constellation, The Satellite, The Controller, Autonomous Operation, Logging & Verbosity Levels, Telemetry, Data Processing), and How-To Guides (Setting up InfluxDB and Grafana). The main content area is titled 'Constellation Operator Guide' with an 'Edit on GitLab' link. It includes a 'See also' section with a link to 'integrate their own hardware or develop new satellites'. The text explains the guide's purpose and structure, mentioning sections like 'Getting Started', 'Tutorials', 'Concepts', and 'How-To Guides'. It also shows examples of UI buttons, configuration parameters, and keystrokes.

Feel free to give feedback
constellation.pages.desy.de