/vessels

Description: A wrapper object for vessel objects, each describing vessels in range, including this vessel.

/vessels/<RegExp>

Title: vessel

Description: This regex pattern is used for validation of an MMSI or Signal K UUID identifier for the vessel. Examples: urn:mrn:imo:mmsi:230099999 urn:mrn:signalk:uuid:c0d79334-4e25-4245-8892-54e8ccc8021d

/vessels/<RegExp>/url

Description: URL based identity of the vessel, if available.

/vessels/<RegExp>/mmsi

Description: MMSI number of the vessel, if available.

/vessels/<RegExp>/mothershipMmsi

Description: MMSI number of the mothership of this vessel, if available.

/vessels/<RegExp>/uuid

Description: A unique Signal K flavoured maritime resource identifier, assigned by the server.

/vessels/<RegExp>/name

Description: The common name of the vessel

/vessels/<RegExp>/flag

Description: The country of ship registration, or flag state of the vessel

/vessels/<RegExp>/port

Description: The home port of the vessel

/vessels/<RegExp>/registrations

Description: The various registrations of the vessel.

/vessels/<RegExp>/registrations/imo

Description: The IMO number of the vessel.

/vessels/<RegExp>/registrations/national

Description: The national registration number of the vessel.

/vessels/<RegExp>/registrations/national/<RegExp>

Description: This regex pattern is used for validating the identifier for the registration

/vessels/<RegExp>/registrations/national/<RegExp>/country

Description: The ISO 3166-2 country code.

/vessels/<RegExp>/registrations/national/<RegExp>/registration

Description: The registration code

/vessels/<RegExp>/registrations/national/<RegExp>/description

Description: The registration description

/vessels/<RegExp>/registrations/local

Description: A local or state registration number of the vessel.

/vessels/<RegExp>/registrations/local/<RegExp>

Description: This regex pattern is used for validating the identifier for the registration

/vessels/<RegExp>/registrations/local/<RegExp>/registration

Description: The registration code

/vessels/<RegExp>/registrations/local/<RegExp>/description

Description: The registration description

/vessels/<RegExp>/registrations/other

Description: Other registration or permits for the vessel.

/vessels/<RegExp>/registrations/other/<RegExp>

Description: This regex pattern is used for validating the identifier for the registration

/vessels/<RegExp>/registrations/other/<RegExp>/registration

Description: The registration code

/vessels/<RegExp>/registrations/other/<RegExp>/description

Description: The registration description

/vessels/<RegExp>/communication

Title: communication

Description: Communication data including Radio, Telephone, E-Mail, etc.

/vessels/<RegExp>/communication/callsignVhf

Description: Callsign for VHF communication

/vessels/<RegExp>/communication/callsignHf

Description: Callsign for HF communication

/vessels/<RegExp>/communication/phoneNumber

Description: Phone number of skipper

/vessels/<RegExp>/communication/emailHf

Description: Email address to be used for HF email (Winmail, Airmail, Sailmail)

/vessels/<RegExp>/communication/email

Description: Regular email for the skipper

/vessels/<RegExp>/communication/satPhoneNumber

Description: Satellite phone number for vessel.

/vessels/<RegExp>/communication/skipperName

Description: Full name of the skipper of the vessel.

/vessels/<RegExp>/communication/crewNames

Description: Array with the names of the crew

/vessels/<RegExp>/environment

Title: environment

Description: Environmental data measured locally including Depth, Wind, Temp, etc.

/vessels/<RegExp>/environment/outside

Description: Environmental conditions outside of the vessel's hull

/vessels/<RegExp>/environment/outside/temperature

Units: K (Kelvin)

Description: Current outside air temperature

/vessels/<RegExp>/environment/outside/dewPointTemperature

Units: K (Kelvin)

Description: Current outside dew point temperature

/vessels/<RegExp>/environment/outside/apparentWindChillTemperature

Units: K (Kelvin)

Description: Current outside apparent wind chill temperature

/vessels/<RegExp>/environment/outside/theoreticalWindChillTemperature

Units: K (Kelvin)

Description: Current outside theoretical wind chill temperature

/vessels/<RegExp>/environment/outside/heatIndexTemperature

Units: K (Kelvin)

Description: Current outside heat index temperature

/vessels/<RegExp>/environment/outside/pressure

Units: Pa (Pascal)

Description: Current outside air ambient pressure

/vessels/<RegExp>/environment/outside/humidity

Units: ratio (Ratio)

Description: Current outside air relative humidity

/vessels/<RegExp>/environment/outside/airDensity

Units: kg/m3 (undefined)

Description: Current outside air density

/vessels/<RegExp>/environment/outside/illuminance

Units: Lux (undefined)

Description: Current outside ambient light flux.

/vessels/<RegExp>/environment/inside

Description: Environmental conditions inside the vessel's hull

/vessels/<RegExp>/environment/inside/temperature

Units: K (Kelvin)

Description: Temperature

/vessels/<RegExp>/environment/inside/heatIndexTemperature

Units: K (Kelvin)

Description: Current heat index temperature in zone

/vessels/<RegExp>/environment/inside/pressure

Units: Pa (Pascal)

Description: Pressure in zone

/vessels/<RegExp>/environment/inside/relativeHumidity

Units: ratio (Ratio)

Description: Relative humidity in zone

/vessels/<RegExp>/environment/inside/dewPoint

Units: K (Kelvin)

Description: Dewpoint in zone

/vessels/<RegExp>/environment/inside/airDensity

Units: kg/m3 (undefined)

Description: Air density in zone

/vessels/<RegExp>/environment/inside/illuminance

Units: Lux (undefined)

Description: Illuminance in zone

/vessels/<RegExp>/environment/inside/[A-Za-z0-9]+

Description: This regex pattern is used for validation of the identifier for the environmental zone, eg. engineRoom, mainCabin, refrigerator

---

/vessels/<RegExp>/environment/inside/[A-Za-z0-9]+/temperature

Units: K (Kelvin)

Description: Temperature

/vessels/<RegExp>/environment/inside/[A-Za-z0-9]+/heatIndexTemperature

Units: K (Kelvin)

Description: Current heat index temperature in zone

/vessels/<RegExp>/environment/inside/[A-Za-z0-9]+/pressure

Units: Pa (Pascal)

Description: Pressure in zone

/vessels/<RegExp>/environment/inside/[A-Za-z0-9]+/relativeHumidity

Units: ratio (Ratio)

Description: Relative humidity in zone

/vessels/<RegExp>/environment/inside/[A-Za-z0-9]+/dewPoint

Units: K (Kelvin)

Description: Dewpoint in zone

/vessels/<RegExp>/environment/inside/[A-Za-z0-9]+/airDensity

Units: kg/m3 (undefined)

Description: Air density in zone

/vessels/<RegExp>/environment/inside/[A-Za-z0-9]+/illuminance

Units: Lux (undefined)

Description: Illuminance in zone

/vessels/<RegExp>/environment/water

Description: Environmental conditions of the water that the vessel is sailing in

/vessels/<RegExp>/environment/water/temperature

Units: K (Kelvin)

Description: Current water temperature

/vessels/<RegExp>/environment/water/salinity

Units: ratio (Ratio)

Description: Water salinity

/vessels/<RegExp>/environment/depth

Title: depth

Description: Depth related data

/vessels/<RegExp>/environment/depth/belowKeel

Units: m (Meter)

Description: Depth below keel

/vessels/<RegExp>/environment/depth/belowTransducer

Units: m (Meter)

Description: Depth below Transducer

/vessels/<RegExp>/environment/depth/belowSurface

Units: m (Meter)

Description: Depth from surface

/vessels/<RegExp>/environment/depth/transducerToKeel

Units: m (Meter)

Description: Depth from the transducer to the bottom of the keel

/vessels/<RegExp>/environment/depth/surfaceToTransducer

Units: m (Meter)

Description: Depth transducer is below the water surface

/vessels/<RegExp>/environment/current

Title: current

Description: Direction and strength of current affecting the vessel

Object value with properties

- drift (m/s)
- setTrue (rad)
- setMagnetic (rad)

/vessels/<RegExp>/environment/tide

Title: tide

Description: Tide data

/vessels/<RegExp>/environment/tide/heightHigh

Units: m (Meter)

Description: Next high tide height relative to lowest astronomical tide (LAT/Chart Datum)

/vessels/<RegExp>/environment/tide/heightNow

Units: m (Meter)

Description: The current tide height relative to lowest astronomical tide (LAT/Chart Datum)

/vessels/<RegExp>/environment/tide/heightLow

Units: m (Meter)

Description: The next low tide height relative to lowest astronomical tide (LAT/Chart Datum)

/vessels/<RegExp>/environment/tide/timeLow

Units: RFC 3339 (UTC) (undefined)

Description: Time of the next low tide in UTC

/vessels/<RegExp>/environment/tide/timeHigh

Units: RFC 3339 (UTC) (undefined)

Description: Time of next high tide in UTC

/vessels/<RegExp>/environment/heave

Units: m (Meter)

Description: Vertical movement of the vessel due to waves

/vessels/<RegExp>/environment/wind

Title: wind

Description: Wind data.

/vessels/<RegExp>/environment/wind/angleApparent

Units: rad (Radian)

Description: Apparent wind angle, negative to port

/vessels/<RegExp>/environment/wind/angleTrueGround

Units: rad (Radian)

Description: True wind angle based on speed over ground, negative to port

/vessels/<RegExp>/environment/wind/angleTrueWater

Units: rad (Radian)

Description: True wind angle based on speed through water, negative to port

/vessels/<RegExp>/environment/wind/directionChangeAlarm

Units: rad (Radian)

Description: The angle the wind needs to shift to raise an alarm

/vessels/<RegExp>/environment/wind/directionTrue

Units: rad (Radian)

Description: The wind direction relative to true north

/vessels/<RegExp>/environment/wind/directionMagnetic

Units: rad (Radian)

Description: The wind direction relative to magnetic north

/vessels/<RegExp>/environment/wind/speedTrue

Units: m/s (Meters per second)

Description: Wind speed over water (as calculated from speedApparent and vessel's speed through water)

/vessels/<RegExp>/environment/wind/speedOverGround

Units: m/s (Meters per second)

Description: Wind speed over ground (as calculated from speedApparent and vessel's speed over ground)

/vessels/<RegExp>/environment/wind/speedApparent

Units: m/s (Meters per second)

Description: Apparent wind speed

/vessels/<RegExp>/environment/time

Description: A time reference for the vessel. All clocks on the vessel dispaying local time should use the timezone offset here. If a timezoneRegion is supplied the timezone must also be supplied. If timezoneRegion is supplied that should be displayed by UIs in preference to simply timezone. ie 12:05 (Europe/London) should be displayed in preference to 12:05 (UTC+01:00)

/vessels/<RegExp>/environment/mode

Description: Mode of the vessel based on the current conditions. Can be combined with navigation.state to control vessel signals eg switch to night mode for instrumentation and lights, or make sound signals for fog.

/vessels/<RegExp>/navigation

Title: navigation

Description: Navigation data including Position, Course to next WP information, etc.

/vessels/<RegExp>/navigation/lights

Title: Navigation lights

Description: Current state of the vessels navigation lights

/vessels/<RegExp>/navigation/courseOverGroundMagnetic

Units: rad (Radian)

Description: Course over ground (magnetic)

/vessels/<RegExp>/navigation/courseOverGroundTrue

Units: rad (Radian)

Description: Course over ground (true)

/vessels/<RegExp>/navigation/courseRhumbline

Title: Course

Description: Course information computed with Rhumbline

/vessels/<RegExp>/navigation/courseRhumbline/crossTrackError

Units: m (Meter)

Description: The distance from the vessel's present position to the closest point on a line (track) between previousPoint and nextPoint. A negative number indicates that the vessel is currently to the left of this line (and thus must steer right to compensate), a positive number means the vessel is to the right of the line (steer left to compensate).

/vessels/<RegExp>/navigation/courseRhumbline/bearingTrackTrue

Units: rad (Radian)

Description: The bearing of a line between previousPoint and nextPoint, relative to true north.

/vessels/<RegExp>/navigation/courseRhumbline/bearingTrackMagnetic

Units: rad (Radian)

Description: The bearing of a line between previousPoint and nextPoint, relative to magnetic north.

/vessels/<RegExp>/navigation/courseRhumbline/activeRoute

Description: Data required if sailing to an active route, defined in resources.

/vessels/<RegExp>/navigation/courseRhumbline/activeRoute/href

Description: A reference (URL) to the presently active route, in resources.

/vessels/<RegExp>/navigation/courseRhumbline/activeRoute/estimatedTimeOfArrival

Description: The estimated time of arrival at the end of the current route

---

/vessels/<RegExp>/navigation/courseRhumbline/activeRoute/startTime

Description: The time this route was activated

/vessels/<RegExp>/navigation/courseRhumbline/nextPoint

Description: The point on earth the vessel's presently navigating towards

---

/vessels/<RegExp>/navigation/courseRhumbline/previousPoint

Description: The point on earth the vessel's presently navigating from

Object value with properties

- type
- href

/vessels/<RegExp>/navigation/courseRhumbline/previousPoint/distance

Units: m (Meter)

Description: The distance in meters between previousPoint and the vessel's present position

---

/vessels/<RegExp>/navigation/courseRhumbline/previousPoint/position

Title: position

Description: The position of lastPoint in two dimensions

Object value with properties

- longitude (deg)
- latitude (deg)
- altitude (m)

/vessels/<RegExp>/navigation/courseGreatCircle

Title: Course

Description: Course information computed with Great Circle

/vessels/<RegExp>/navigation/courseGreatCircle/crossTrackError

Units: m (Meter)

Description: The distance from the vessel's present position to the closest point on a line (track) between previousPoint and nextPoint. A negative number indicates that the vessel is currently to the left of this line (and thus must steer right to compensate), a positive number means the vessel is to the right of the line (steer left to compensate).

/vessels/<RegExp>/navigation/courseGreatCircle/bearingTrackTrue

Units: rad (Radian)

Description: The bearing of a line between previousPoint and nextPoint, relative to true north.

/vessels/<RegExp>/navigation/courseGreatCircle/bearingTrackMagnetic

Units: rad (Radian)

Description: The bearing of a line between previousPoint and nextPoint, relative to magnetic north.

/vessels/<RegExp>/navigation/courseGreatCircle/activeRoute

Description: Data required if sailing to an active route, defined in resources.

/vessels/<RegExp>/navigation/courseGreatCircle/activeRoute/href

Description: A reference (URL) to the presently active route, in resources.

/vessels/<RegExp>/navigation/courseGreatCircle/activeRoute/estimatedTimeOfArrival

Description: The estimated time of arrival at the end of the current route

---

/vessels/<RegExp>/navigation/courseGreatCircle/activeRoute/startTime

Description: The time this route was activated

/vessels/<RegExp>/navigation/courseGreatCircle/nextPoint

Description: The point on earth the vessel's presently navigating towards

---

/vessels/<RegExp>/navigation/courseGreatCircle/previousPoint

Description: The point on earth the vessel's presently navigating from

Object value with properties

- type
- href

/vessels/<RegExp>/navigation/courseGreatCircle/previousPoint/distance

Units: m (Meter)

Description: The distance in meters between previousPoint and the vessel's present position

---

/vessels/<RegExp>/navigation/courseGreatCircle/previousPoint/position

Title: position

Description: The position of lastPoint in two dimensions

Object value with properties

- longitude (deg)
- latitude (deg)
- altitude (m)

/vessels/<RegExp>/navigation/closestApproach

Description: Calculated values for other vessels, e.g. from AIS

Object value with properties

- distance (m)
- timeTo (s)

/vessels/<RegExp>/navigation/racing

Description: Specific navigational data related to yacht racing.

/vessels/<RegExp>/navigation/racing/startLineStb

Title: position

Description: Position of starboard start mark

Object value with properties

- longitude (deg)
- latitude (deg)
- altitude (m)

/vessels/<RegExp>/navigation/racing/startLinePort

Title: position

Description: Position of port start mark

Object value with properties

- longitude (deg)
- latitude (deg)
- altitude (m)

/vessels/<RegExp>/navigation/racing/distanceStartline

Units: m (Meter)

Description: The current distance to the start line

/vessels/<RegExp>/navigation/racing/timeToStart

Units: s (Second)

Description: Time left before start

/vessels/<RegExp>/navigation/racing/timePortDown

Units: s (Second)

Description: Time to arrive at the start line on port, turning downwind

---

/vessels/<RegExp>/navigation/racing/timePortUp

Units: s (Second)

Description: Time to arrive at the start line on port, turning upwind

---

/vessels/<RegExp>/navigation/racing/timeStbdDown

Units: s (Second)

Description: Time to arrive at the start line on starboard, turning downwind

/vessels/<RegExp>/navigation/racing/timeStbdUp

Units: s (Second)

Description: Time to arrive at the start line on starboard, turning upwind

/vessels/<RegExp>/navigation/racing/layline

Description: The layline crossing the current course

/vessels/<RegExp>/navigation/racing/layline/distance

Units: m (Meter)

Description: The current distance to the layline

/vessels/<RegExp>/navigation/racing/layline/time

Units: s (Second)

Description: The time to the layline at current speed and heading

/vessels/<RegExp>/navigation/racing/oppositeLayline

Description: The layline parallell to current course

/vessels/<RegExp>/navigation/racing/oppositeLayline/distance

Units: m (Meter)

Description: The current distance to the layline

/vessels/<RegExp>/navigation/racing/oppositeLayline/time

Units: s (Second)

Description: The time to the layline at current speed and heading

/vessels/<RegExp>/navigation/magneticVariation

Units: rad (Radian)

Description: The magnetic variation (declination) at the current position that must be added to the magnetic heading to derive the true heading. Easterly variations are positive and Westerly variations are negative (in Radians).

/vessels/<RegExp>/navigation/magneticVariationAgeOfService

Units: s (Second)

Description: Seconds since the 1st Jan 1970 that the variation calculation was made

/vessels/<RegExp>/navigation/destination

Title: destination

Description: The intended destination of this trip

/vessels/<RegExp>/navigation/destination/commonName

Description: Common name of the Destination, eg 'Fiji', also used in ais messages

/vessels/<RegExp>/navigation/destination/eta

Description: Expected time of arrival at destination waypoint

/vessels/<RegExp>/navigation/destination/waypoint

Description: UUID of destination waypoint

/vessels/<RegExp>/navigation/gnss

Title: gnss

Description: Global satellite navigation meta information

/vessels/<RegExp>/navigation/gnss/type

Description: Fix type

/vessels/<RegExp>/navigation/gnss/methodQuality

Description: Quality of the satellite fix

/vessels/<RegExp>/navigation/gnss/integrity

Description: Integrity of the satellite fix

/vessels/<RegExp>/navigation/gnss/satellites

Description: Number of satellites

/vessels/<RegExp>/navigation/gnss/antennaAltitude

Units: m (Meter)

Description: Altitude of antenna

/vessels/<RegExp>/navigation/gnss/horizontalDilution

Description: Horizontal Dilution of Precision

/vessels/<RegExp>/navigation/gnss/positionDilution

Description: Positional Dilution of Precision

/vessels/<RegExp>/navigation/gnss/geoidalSeparation

Description: Difference between WGS84 earth ellipsoid and mean sea level

/vessels/<RegExp>/navigation/gnss/differentialAge

Units: s (Second)

Description: Age of DGPS data

/vessels/<RegExp>/navigation/gnss/differentialReference

Description: ID of DGPS base station

/vessels/<RegExp>/navigation/headingMagnetic

Units: rad (Radian)

Description: Current magnetic heading of the vessel, equals 'headingCompass adjusted for magneticDeviation'

/vessels/<RegExp>/navigation/magneticDeviation

Units: rad (Radian)

Description: Magnetic deviation of the compass at the current headingCompass

---

/vessels/<RegExp>/navigation/headingCompass

Units: rad (Radian)

Description: Current magnetic heading received from the compass. This is not adjusted for magneticDeviation of the compass

---

/vessels/<RegExp>/navigation/headingTrue

Units: rad (Radian)

Description: The current true north heading of the vessel, equals 'headingMagnetic adjusted for magneticVariation'

/vessels/<RegExp>/navigation/position

Title: position

Description: The position of the vessel in 2 or 3 dimensions (WGS84 datum)

Object value with properties

- longitude (deg)
- latitude (deg)
- altitude (m)

/vessels/<RegExp>/navigation/attitude

Title: Attitude

Description: Vessel attitude: roll, pitch and yaw

Object value with properties

- roll (rad)
- pitch (rad)
- yaw (rad)

/vessels/<RegExp>/navigation/maneuver

Description: Special maneuver such as regional passing arrangement. (from ais)

/vessels/<RegExp>/navigation/rateOfTurn

Units: rad/s (Radian per second)

Description: Rate of turn (+ve is change to starboard). If the value is AIS RIGHT or LEFT, set to +-0.0206 rads and add warning in notifications

---

/vessels/<RegExp>/navigation/speedOverGround

Units: m/s (Meters per second)

Description: Vessel speed over ground. If converting from AIS 'HIGH' value, set to 102.2 (Ais max value) and add warning in notifications

---

/vessels/<RegExp>/navigation/speedThroughWater

Units: m/s (Meters per second)

Description: Vessel speed through the water

/vessels/<RegExp>/navigation/speedThroughWaterTransverse

Units: m/s (Meters per second)

Description: Transverse speed through the water (Leeway)

/vessels/<RegExp>/navigation/speedThroughWaterLongitudinal

Units: m/s (Meters per second)

Description: Longitudinal speed through the water

/vessels/<RegExp>/navigation/leewayAngle

Units: rad (Radian)

Description: Leeway Angle derived from the longitudinal and transverse speeds through the water

/vessels/<RegExp>/navigation/log

Units: m (Meter)

Description: Total distance traveled

/vessels/<RegExp>/navigation/trip

Description: Trip data

/vessels/<RegExp>/navigation/trip/log

Units: m (Meter)

Description: Total distance traveled on this trip / since trip reset

/vessels/<RegExp>/navigation/trip/lastReset

Description: Trip log reset time

/vessels/<RegExp>/navigation/state

Title: state

Description: Current navigational state of the vessel

/vessels/<RegExp>/navigation/anchor

Title: anchor

Description: The anchor data, for anchor watch etc

/vessels/<RegExp>/navigation/anchor/maxRadius

Units: m (Meter)

Description: Radius of anchor alarm boundary. The distance from anchor to the center of the boat

/vessels/<RegExp>/navigation/anchor/currentRadius

Units: m (Meter)

Description: Current distance to anchor

/vessels/<RegExp>/navigation/anchor/position

Title: position

Description: The actual anchor position of the vessel in 3 dimensions, probably an estimate at best

Object value with properties

- longitude (deg)
- latitude (deg)
- altitude (m)

/vessels/<RegExp>/navigation/datetime

Description: Time and Date from the GNSS Positioning System

/vessels/<RegExp>/propulsion

Title: propulsion

Description: Engine data, each engine identified by a unique name i.e. Port_Engine

/vessels/<RegExp>/propulsion/<RegExp>

Description: This regex pattern is used for validation of the identifier for the propulsion unit

/vessels/<RegExp>/propulsion/<RegExp>/label

Description: Human readable label for the propulsion unit

/vessels/<RegExp>/propulsion/<RegExp>/state

Description: The current state of the engine

/vessels/<RegExp>/propulsion/<RegExp>/revolutions

Units: Hz (Hertz)

Description: Engine revolutions (x60 for RPM)

/vessels/<RegExp>/propulsion/<RegExp>/temperature

Units: K (Kelvin)

Description: Engine temperature

/vessels/<RegExp>/propulsion/<RegExp>/oilTemperature

Units: K (Kelvin)

Description: Oil temperature

/vessels/<RegExp>/propulsion/<RegExp>/oilPressure

Units: Pa (Pascal)

Description: Oil pressure

/vessels/<RegExp>/propulsion/<RegExp>/alternatorVoltage

Units: V (Volt)

Description: Alternator voltage

/vessels/<RegExp>/propulsion/<RegExp>/runTime

Units: s (Second)

Description: Total running time for engine (Engine Hours in seconds)

/vessels/<RegExp>/propulsion/<RegExp>/coolantTemperature

Units: K (Kelvin)

Description: Coolant temperature

/vessels/<RegExp>/propulsion/<RegExp>/coolantPressure

Units: Pa (Pascal)

Description: Coolant pressure

/vessels/<RegExp>/propulsion/<RegExp>/boostPressure

Units: Pa (Pascal)

Description: Engine boost (turbo, supercharger) pressure

/vessels/<RegExp>/propulsion/<RegExp>/intakeManifoldTemperature

Units: K (Kelvin)

Description: Intake manifold temperature

/vessels/<RegExp>/propulsion/<RegExp>/engineLoad

Units: ratio (Ratio)

Description: Engine load ratio, 0<=ratio<=1, 1 is 100%

/vessels/<RegExp>/propulsion/<RegExp>/engineTorque

Units: ratio (Ratio)

Description: Engine torque ratio, 0<=ratio<=1, 1 is 100%

/vessels/<RegExp>/propulsion/<RegExp>/transmission

Description: The transmission (gear box) of the named engine

/vessels/<RegExp>/propulsion/<RegExp>/transmission/gear

Description: Currently selected gear the engine is in i.e. Forward, Reverse, etc.

/vessels/<RegExp>/propulsion/<RegExp>/transmission/gearRatio

Units: ratio (Ratio)

Description: Gear ratio, engine rotations per propeller shaft rotation

/vessels/<RegExp>/propulsion/<RegExp>/transmission/oilTemperature

Units: K (Kelvin)

Description: Oil temperature

/vessels/<RegExp>/propulsion/<RegExp>/transmission/oilPressure

Units: Pa (Pascal)

Description: Oil pressure

/vessels/<RegExp>/propulsion/<RegExp>/drive

Description: Data about the engine's drive.

/vessels/<RegExp>/propulsion/<RegExp>/drive/type

Description: The type of drive the boat has i.e Outboard, shaft, jet, etc.

Enum values:

- saildrive
- shaft
- outboard
- jet
- pod
- other

/vessels/<RegExp>/propulsion/<RegExp>/drive/trimState

Units: ratio (Ratio)

Description: Trim/tilt state, 0<=ratio<=1, 1 is 100% up

/vessels/<RegExp>/propulsion/<RegExp>/drive/thrustAngle

Units: rad (Radian)

Description: Current thrust angle for steerable drives, +ve is thrust to Starboard

---

/vessels/<RegExp>/propulsion/<RegExp>/drive/propeller

Description: Data about the drive's propeller (pitch and slip)

/vessels/<RegExp>/propulsion/<RegExp>/fuel

Description: Data about the engine's Fuel Supply

/vessels/<RegExp>/propulsion/<RegExp>/fuel/type

Description: Fuel type

Enum values:

- diesel
- petrol
- electric
- coal/wood
- other

/vessels/<RegExp>/propulsion/<RegExp>/fuel/used

Units: m3 (Cubic meter)

Description: Used fuel since last reset. Resetting is at user discretion

---

/vessels/<RegExp>/propulsion/<RegExp>/fuel/pressure

Units: Pa (Pascal)

Description: Fuel pressure

/vessels/<RegExp>/propulsion/<RegExp>/fuel/rate

Units: m3/s (Cubic meter per second)

Description: Fuel rate of consumption

/vessels/<RegExp>/propulsion/<RegExp>/fuel/economyRate

Units: m3/s (Cubic meter per second)

Description: Economy fuel rate of consumption

/vessels/<RegExp>/propulsion/<RegExp>/fuel/averageRate

Units: m3/s (Cubic meter per second)

Description: Average fuel rate of consumption

/vessels/<RegExp>/propulsion/<RegExp>/exhaustTemperature

Units: K (Kelvin)

Description: Exhaust temperature

/vessels/<RegExp>/electrical

Title: electrical

Description: Electrical data, each electrical device indentified by a unique name i.e. Battery_1

/vessels/<RegExp>/electrical/batteries

Description: Data about the vessel's batteries

/vessels/<RegExp>/electrical/batteries/<RegExp>

Title: Battery keyed by instance id

Description: Batteries, one or many, within the vessel

/vessels/<RegExp>/electrical/batteries/<RegExp>/name

Description: Unique ID of device (houseBattery, alternator, Generator, solar1, inverter, charger, combiner, etc.)

/vessels/<RegExp>/electrical/batteries/<RegExp>/location

Description: Installed location of device on vessel

/vessels/<RegExp>/electrical/batteries/<RegExp>/dateInstalled

Units: RFC 3339 (UTC) (undefined)

Description: Date device was installed

/vessels/<RegExp>/electrical/batteries/<RegExp>/manufacturer

Description: [missing]

/vessels/<RegExp>/electrical/batteries/<RegExp>/manufacturer/name

Description: Manufacturer's name

/vessels/<RegExp>/electrical/batteries/<RegExp>/manufacturer/model

Description: Model or part number

/vessels/<RegExp>/electrical/batteries/<RegExp>/manufacturer/URL

Description: Web referance / URL

/vessels/<RegExp>/electrical/batteries/<RegExp>/associatedBus

Description: Name of BUS device is associated with

/vessels/<RegExp>/electrical/batteries/<RegExp>/voltage

Units: V (Volt)

Description: Voltage measured at or as close as possible to the device

/vessels/<RegExp>/electrical/batteries/<RegExp>/voltage/ripple

Units: V (Volt)

Description: DC Ripple voltage

/vessels/<RegExp>/electrical/batteries/<RegExp>/current

Units: A (Ampere)

Description: Current flowing out (+ve) or in (-ve) to the device

/vessels/<RegExp>/electrical/batteries/<RegExp>/temperature

Title: temperature

Units: K (Kelvin)

Description: Temperature measured within or on the device

/vessels/<RegExp>/electrical/batteries/<RegExp>/chemistry

Description: Type of battery FLA, LiFePO4, etc.

/vessels/<RegExp>/electrical/batteries/<RegExp>/capacity

Title: capacity

Description: Data about the battery's capacity

/vessels/<RegExp>/electrical/batteries/<RegExp>/capacity/nominal

Units: J (Joule)

Description: The capacity of battery as specified by the manufacturer

---

/vessels/<RegExp>/electrical/batteries/<RegExp>/capacity/actual

Units: J (Joule)

Description: The measured capacity of battery. This may change over time and will likely deviate from the nominal capacity.

/vessels/<RegExp>/electrical/batteries/<RegExp>/capacity/remaining

Units: J (Joule)

Description: Capacity remaining in battery

/vessels/<RegExp>/electrical/batteries/<RegExp>/capacity/dischargeLimit

Units: J (Joule)

Description: Minimum capacity to be left in the battery while discharging

---

/vessels/<RegExp>/electrical/batteries/<RegExp>/capacity/stateOfCharge

Units: ratio (Ratio)

Description: State of charge, 1 = 100%

/vessels/<RegExp>/electrical/batteries/<RegExp>/capacity/stateOfHealth

Units: ratio (Ratio)

Description: State of Health, 1 = 100%

/vessels/<RegExp>/electrical/batteries/<RegExp>/capacity/dischargeSinceFull

Units: C (Coulomb)

Description: Cumulative discharge since battery was last full

/vessels/<RegExp>/electrical/batteries/<RegExp>/capacity/timeRemaining

Units: s (Second)

Description: Time to discharge to discharge limit at current rate

/vessels/<RegExp>/electrical/batteries/<RegExp>/lifetimeDischarge

Units: C (Coulomb)

Description: Cumulative charge discharged from battery over operational lifetime of battery

/vessels/<RegExp>/electrical/batteries/<RegExp>/lifetimeRecharge

Units: C (Coulomb)

Description: Cumulative charge recharged into battery over operational lifetime of battery

/vessels/<RegExp>/electrical/inverters

Description: Data about the Inverter that has both DC and AC qualities

/vessels/<RegExp>/electrical/inverters/<RegExp>

Title: Inverter

Description: DC to AC inverter, one or many, within the vessel

/vessels/<RegExp>/electrical/inverters/<RegExp>/name

Description: Unique ID of device (houseBattery, alternator, Generator, solar1, inverter, charger, combiner, etc.)

/vessels/<RegExp>/electrical/inverters/<RegExp>/location

Description: Installed location of device on vessel

/vessels/<RegExp>/electrical/inverters/<RegExp>/dateInstalled

Units: RFC 3339 (UTC) (undefined)

Description: Date device was installed

/vessels/<RegExp>/electrical/inverters/<RegExp>/manufacturer

Description: [missing]

/vessels/<RegExp>/electrical/inverters/<RegExp>/manufacturer/name

Description: Manufacturer's name

/vessels/<RegExp>/electrical/inverters/<RegExp>/manufacturer/model

Description: Model or part number

/vessels/<RegExp>/electrical/inverters/<RegExp>/manufacturer/URL

Description: Web referance / URL

/vessels/<RegExp>/electrical/inverters/<RegExp>/dc

Title: DC Qualities

Description: DC common qualities

/vessels/<RegExp>/electrical/inverters/<RegExp>/dc/associatedBus

Description: Name of BUS device is associated with

/vessels/<RegExp>/electrical/inverters/<RegExp>/dc/voltage

Units: V (Volt)

Description: Voltage measured at or as close as possible to the device

/vessels/<RegExp>/electrical/inverters/<RegExp>/dc/voltage/ripple

Units: V (Volt)

Description: DC Ripple voltage

/vessels/<RegExp>/electrical/inverters/<RegExp>/dc/current

Units: A (Ampere)

Description: Current flowing out (+ve) or in (-ve) to the device

/vessels/<RegExp>/electrical/inverters/<RegExp>/dc/temperature

Title: temperature

Units: K (Kelvin)

Description: Temperature measured within or on the device

/vessels/<RegExp>/electrical/inverters/<RegExp>/ac

Title: AC Qualities

Description: AC equipment common qualities

/vessels/<RegExp>/electrical/inverters/<RegExp>/ac/associatedBus

Description: Name of BUS device is associated with

/vessels/<RegExp>/electrical/inverters/<RegExp>/ac/lineNeutralVoltage

Units: V (Volt)

Description: RMS voltage measured between phase and neutral

/vessels/<RegExp>/electrical/inverters/<RegExp>/ac/lineLineVoltage

Units: V (Volt)

Description: RMS voltage measured between phases

/vessels/<RegExp>/electrical/inverters/<RegExp>/ac/current

Units: A (Ampere)

Description: RMS current

/vessels/<RegExp>/electrical/inverters/<RegExp>/ac/frequency

Units: Hz (Hertz)

Description: AC frequency.

/vessels/<RegExp>/electrical/inverters/<RegExp>/ac/reactivePower

Units: W (Watt)

Description: Reactive power

/vessels/<RegExp>/electrical/inverters/<RegExp>/ac/powerFactor

Description: Power factor

/vessels/<RegExp>/electrical/inverters/<RegExp>/ac/powerFactorLagging

Description: Lead/lag status.

Enum values:

- leading
- lagging
- error
- not available

/vessels/<RegExp>/electrical/inverters/<RegExp>/ac/realPower

Units: W (Watt)

Description: Real power.

/vessels/<RegExp>/electrical/inverters/<RegExp>/ac/apparentPower

Units: W (Watt)

Description: Apparent power.

/vessels/<RegExp>/electrical/inverters/<RegExp>/inverterMode

Description: Mode of inverter

/vessels/<RegExp>/electrical/chargers

Description: Data about AC sourced battery charger

/vessels/<RegExp>/electrical/chargers/<RegExp>

Title: Charger

Description: Battery charger

/vessels/<RegExp>/electrical/chargers/<RegExp>/name

Description: Unique ID of device (houseBattery, alternator, Generator, solar1, inverter, charger, combiner, etc.)

/vessels/<RegExp>/electrical/chargers/<RegExp>/location

Description: Installed location of device on vessel

/vessels/<RegExp>/electrical/chargers/<RegExp>/dateInstalled

Units: RFC 3339 (UTC) (undefined)

Description: Date device was installed

/vessels/<RegExp>/electrical/chargers/<RegExp>/manufacturer

Description: [missing]

/vessels/<RegExp>/electrical/chargers/<RegExp>/manufacturer/name

Description: Manufacturer's name

/vessels/<RegExp>/electrical/chargers/<RegExp>/manufacturer/model

Description: Model or part number

/vessels/<RegExp>/electrical/chargers/<RegExp>/manufacturer/URL

Description: Web referance / URL

/vessels/<RegExp>/electrical/chargers/<RegExp>/associatedBus

Description: Name of BUS device is associated with

/vessels/<RegExp>/electrical/chargers/<RegExp>/voltage

Units: V (Volt)

Description: Voltage measured at or as close as possible to the device

---

/vessels/<RegExp>/electrical/chargers/<RegExp>/voltage/ripple

Units: V (Volt)

Description: DC Ripple voltage

/vessels/<RegExp>/electrical/chargers/<RegExp>/current

Units: A (Ampere)

Description: Current flowing out (+ve) or in (-ve) to the device

---

/vessels/<RegExp>/electrical/chargers/<RegExp>/temperature

Title: temperature

Units: K (Kelvin)

Description: Temperature measured within or on the device

/vessels/<RegExp>/electrical/chargers/<RegExp>/chargingAlgorithm

Description: Algorithm being used by the charger

/vessels/<RegExp>/electrical/chargers/<RegExp>/chargerRole

Description: How is charging source configured? Standalone, or in sync with another charger?

/vessels/<RegExp>/electrical/chargers/<RegExp>/chargingMode

Description: Charging mode i.e. float, overcharge, etc.

/vessels/<RegExp>/electrical/chargers/<RegExp>/setpointVoltage

Units: V (Volt)

Description: Target regulation voltage

/vessels/<RegExp>/electrical/chargers/<RegExp>/setpointCurrent

Units: A (Ampere)

Description: Target current limit

/vessels/<RegExp>/electrical/alternators

Description: Data about an Alternator charging device

/vessels/<RegExp>/electrical/alternators/<RegExp>

Title: Alternator

Description: Mechanically driven alternator, includes dynamos

/vessels/<RegExp>/electrical/alternators/<RegExp>/name

Description: Unique ID of device (houseBattery, alternator, Generator, solar1, inverter, charger, combiner, etc.)

/vessels/<RegExp>/electrical/alternators/<RegExp>/location

Description: Installed location of device on vessel

/vessels/<RegExp>/electrical/alternators/<RegExp>/dateInstalled

Units: RFC 3339 (UTC) (undefined)

Description: Date device was installed

/vessels/<RegExp>/electrical/alternators/<RegExp>/manufacturer

Description: [missing]

/vessels/<RegExp>/electrical/alternators/<RegExp>/manufacturer/name

Description: Manufacturer's name

/vessels/<RegExp>/electrical/alternators/<RegExp>/manufacturer/model

Description: Model or part number

/vessels/<RegExp>/electrical/alternators/<RegExp>/manufacturer/URL

Description: Web referance / URL

/vessels/<RegExp>/electrical/alternators/<RegExp>/associatedBus

Description: Name of BUS device is associated with

/vessels/<RegExp>/electrical/alternators/<RegExp>/voltage

Units: V (Volt)

Description: Voltage measured at or as close as possible to the device

/vessels/<RegExp>/electrical/alternators/<RegExp>/voltage/ripple

Units: V (Volt)

Description: DC Ripple voltage

/vessels/<RegExp>/electrical/alternators/<RegExp>/current

Units: A (Ampere)

Description: Current flowing out (+ve) or in (-ve) to the device

---

/vessels/<RegExp>/electrical/alternators/<RegExp>/temperature

Title: temperature

Units: K (Kelvin)

Description: Temperature measured within or on the device

/vessels/<RegExp>/electrical/alternators/<RegExp>/chargingAlgorithm

Description: Algorithm being used by the charger

/vessels/<RegExp>/electrical/alternators/<RegExp>/chargerRole

Description: How is charging source configured? Standalone, or in sync with another charger?

/vessels/<RegExp>/electrical/alternators/<RegExp>/chargingMode

Description: Charging mode i.e. float, overcharge, etc.

/vessels/<RegExp>/electrical/alternators/<RegExp>/setpointVoltage

Units: V (Volt)

Description: Target regulation voltage

/vessels/<RegExp>/electrical/alternators/<RegExp>/setpointCurrent

Units: A (Ampere)

Description: Target current limit

/vessels/<RegExp>/electrical/alternators/<RegExp>/revolutions

Units: Hz (Hertz)

Description: Alternator revolutions per second (x60 for RPM)

/vessels/<RegExp>/electrical/alternators/<RegExp>/pulleyRatio

Units: ratio (Ratio)

Description: Mechanical pulley ratio of driving source (Used to back calculate engine RPMs)

/vessels/<RegExp>/electrical/alternators/<RegExp>/fieldDrive

Units: % (undefined)

Description: % (0..100) of field voltage applied

/vessels/<RegExp>/electrical/alternators/<RegExp>/regulatorTemperature

Units: K (Kelvin)

Description: Current temperature of critical regulator components

/vessels/<RegExp>/electrical/solar

Description: Data about Solar charging device(s)

/vessels/<RegExp>/electrical/solar/<RegExp>

Title: Solar

Description: Photovoltaic charging devices

/vessels/<RegExp>/electrical/solar/<RegExp>/name

Description: Unique ID of device (houseBattery, alternator, Generator, solar1, inverter, charger, combiner, etc.)

/vessels/<RegExp>/electrical/solar/<RegExp>/location

Description: Installed location of device on vessel

/vessels/<RegExp>/electrical/solar/<RegExp>/dateInstalled

Units: RFC 3339 (UTC) (undefined)

Description: Date device was installed

/vessels/<RegExp>/electrical/solar/<RegExp>/manufacturer

Description: [missing]

/vessels/<RegExp>/electrical/solar/<RegExp>/manufacturer/name

Description: Manufacturer's name

/vessels/<RegExp>/electrical/solar/<RegExp>/manufacturer/model

Description: Model or part number

/vessels/<RegExp>/electrical/solar/<RegExp>/manufacturer/URL

Description: Web referance / URL

/vessels/<RegExp>/electrical/solar/<RegExp>/associatedBus

Description: Name of BUS device is associated with

/vessels/<RegExp>/electrical/solar/<RegExp>/voltage

Units: V (Volt)

Description: Voltage measured at or as close as possible to the device

---

/vessels/<RegExp>/electrical/solar/<RegExp>/voltage/ripple

Units: V (Volt)

Description: DC Ripple voltage

/vessels/<RegExp>/electrical/solar/<RegExp>/current

Units: A (Ampere)

Description: Current flowing out (+ve) or in (-ve) to the device

---

/vessels/<RegExp>/electrical/solar/<RegExp>/temperature

Title: temperature

Units: K (Kelvin)

Description: Temperature measured within or on the device

/vessels/<RegExp>/electrical/solar/<RegExp>/chargingAlgorithm

Description: Algorithm being used by the charger

/vessels/<RegExp>/electrical/solar/<RegExp>/chargerRole

Description: How is charging source configured? Standalone, or in sync with another charger?

/vessels/<RegExp>/electrical/solar/<RegExp>/chargingMode

Description: Charging mode i.e. float, overcharge, etc.

/vessels/<RegExp>/electrical/solar/<RegExp>/setpointVoltage

Units: V (Volt)

Description: Target regulation voltage

/vessels/<RegExp>/electrical/solar/<RegExp>/setpointCurrent

Units: A (Ampere)

Description: Target current limit

/vessels/<RegExp>/electrical/solar/<RegExp>/controllerMode

Description: The current state of the engine

/vessels/<RegExp>/electrical/solar/<RegExp>/panelVoltage

Units: V (Volt)

Description: Voltage being supplied from Solar Panels to controller

---

/vessels/<RegExp>/electrical/solar/<RegExp>/panelCurrent

Units: A (Ampere)

Description: Amperage being supplied from Solar Panels to controller

---

/vessels/<RegExp>/electrical/solar/<RegExp>/panelTemperature

Units: K (Kelvin)

Description: Temperature of panels

/vessels/<RegExp>/electrical/solar/<RegExp>/load

Description: State of load port on controller (if applicable)

/vessels/<RegExp>/electrical/solar/<RegExp>/loadCurrent

Units: A (Ampere)

Description: Amperage being supplied to load directly connected to controller

/vessels/<RegExp>/electrical/ac

Description: AC buses

/vessels/<RegExp>/electrical/ac/<RegExp>

Title: AC Bus keyed by instance id

Description: AC Bus, one or many, within the vessel

/vessels/<RegExp>/electrical/ac/<RegExp>/name

Description: Unique ID of device (houseBattery, alternator, Generator, solar1, inverter, charger, combiner, etc.)

/vessels/<RegExp>/electrical/ac/<RegExp>/location

Description: Installed location of device on vessel

/vessels/<RegExp>/electrical/ac/<RegExp>/dateInstalled

Units: RFC 3339 (UTC) (undefined)

Description: Date device was installed

/vessels/<RegExp>/electrical/ac/<RegExp>/manufacturer

Description: [missing]

/vessels/<RegExp>/electrical/ac/<RegExp>/manufacturer/name

Description: Manufacturer's name

/vessels/<RegExp>/electrical/ac/<RegExp>/manufacturer/model

Description: Model or part number

/vessels/<RegExp>/electrical/ac/<RegExp>/manufacturer/URL

Description: Web referance / URL

/vessels/<RegExp>/electrical/ac/<RegExp>/phase

Description: Single or A,B or C in 3 Phase systems

/vessels/<RegExp>/electrical/ac/<RegExp>/phase/(single)|([A-C])

Title: AC Qualities

Description: AC equipment common qualities

/vessels/<RegExp>/electrical/ac/<RegExp>/phase/(single)|([A-C])/associatedBus

Description: Name of BUS device is associated with

/vessels/<RegExp>/electrical/ac/<RegExp>/phase/(single)|([A-C])/lineNeutralVoltage

Units: V (Volt)

Description: RMS voltage measured between phase and neutral

/vessels/<RegExp>/electrical/ac/<RegExp>/phase/(single)|([A-C])/lineLineVoltage

Units: V (Volt)

Description: RMS voltage measured between phases

/vessels/<RegExp>/electrical/ac/<RegExp>/phase/(single)|([A-C])/current

Units: A (Ampere)

Description: RMS current

/vessels/<RegExp>/electrical/ac/<RegExp>/phase/(single)|([A-C])/frequency

Units: Hz (Hertz)

Description: AC frequency.

/vessels/<RegExp>/electrical/ac/<RegExp>/phase/(single)|([A-C])/reactivePower

Units: W (Watt)

Description: Reactive power

/vessels/<RegExp>/electrical/ac/<RegExp>/phase/(single)|([A-C])/powerFactor

Description: Power factor

/vessels/<RegExp>/electrical/ac/<RegExp>/phase/(single)|([A-C])/powerFactorLagging

Description: Lead/lag status.

Enum values:

- leading
- lagging
- error
- not available

/vessels/<RegExp>/electrical/ac/<RegExp>/phase/(single)|([A-C])/realPower

Units: W (Watt)

Description: Real power.

/vessels/<RegExp>/electrical/ac/<RegExp>/phase/(single)|([A-C])/apparentPower

Units: W (Watt)

Description: Apparent power.

/vessels/<RegExp>/notifications

Title: notifications

Description: Notifications currently raised. Major categories have well-defined names, but the tree can be extended by any hierarchical structure

---

/vessels/<RegExp>/notifications/mob

Description: Man overboard

Object value with properties

- method
- state
- message

/vessels/<RegExp>/notifications/fire

Description: Fire onboard

Object value with properties

- method
- state
- message

/vessels/<RegExp>/notifications/sinking

Description: Vessel is sinking

Object value with properties

- method
- state
- message

/vessels/<RegExp>/notifications/flooding

Description: Vessel is flooding

Object value with properties

- method
- state
- message

/vessels/<RegExp>/notifications/collision

Description: In collision with another vessel or object

Object value with properties

- method
- state
- message

/vessels/<RegExp>/notifications/grounding

Description: Vessel grounding

Object value with properties

- method
- state
- message

/vessels/<RegExp>/notifications/listing

Description: Vessel is listing

Object value with properties

- method
- state
- message

/vessels/<RegExp>/notifications/adrift

Description: Vessel is adrift

Object value with properties

- method
- state
- message

/vessels/<RegExp>/notifications/piracy

Description: Under attack or danger from pirates

Object value with properties

- method
- state
- message

/vessels/<RegExp>/notifications/abandon

Description: Abandon ship

Object value with properties

- method
- state
- message

/vessels/<RegExp>/notifications/<RegExp>

Description: This regex pattern is used for validation of the path of the alarm

---

/vessels/<RegExp>/steering

Title: steering

Description: Vessel steering data for steering controls (not Autopilot 'Nav Data')

/vessels/<RegExp>/steering/rudderAngle

Units: rad (Radian)

Description: Current rudder angle, +ve is rudder to Starboard

---

/vessels/<RegExp>/steering/rudderAngleTarget

Units: rad (Radian)

Description: The angle the rudder should move to, +ve is rudder to Starboard

---

/vessels/<RegExp>/steering/autopilot

Title: autopilot

Description: Autopilot data

/vessels/<RegExp>/steering/autopilot/state

Description: Autopilot state

/vessels/<RegExp>/steering/autopilot/mode

Description: Operational mode

/vessels/<RegExp>/steering/autopilot/target

Title: target

Description: Autopilot target

/vessels/<RegExp>/steering/autopilot/target/windAngleApparent

Units: rad (Radian)

Description: Target angle to steer, relative to Apparent wind +port -starboard

---

/vessels/<RegExp>/steering/autopilot/target/headingTrue

Units: rad (Radian)

Description: Target heading for autopilot, relative to North

/vessels/<RegExp>/steering/autopilot/target/headingMagnetic

Units: rad (Radian)

Description: Target heading for autopilot, relative to Magnetic North

---

/vessels/<RegExp>/steering/autopilot/deadZone

Units: rad (Radian)

Description: Dead zone to ignore for rudder corrections

/vessels/<RegExp>/steering/autopilot/backlash

Units: rad (Radian)

Description: Slack in the rudder drive mechanism

/vessels/<RegExp>/steering/autopilot/gain

Description: Auto-pilot gain, higher number equals more rudder movement for a given turn

---

/vessels/<RegExp>/steering/autopilot/maxDriveCurrent

Units: A (Ampere)

Description: Maximum current to use to drive servo

/vessels/<RegExp>/steering/autopilot/maxDriveRate

Units: rad/s (Radian per second)

Description: Maximum rudder rotation speed

/vessels/<RegExp>/steering/autopilot/portLock

Units: rad (Radian)

Description: Position of servo on port lock

/vessels/<RegExp>/steering/autopilot/starboardLock

Units: rad (Radian)

Description: Position of servo on starboard lock

/vessels/<RegExp>/tanks

Title: tanks

Description: Tank data, each tank indentified by a unique name i.e. FreshWater_2

/vessels/<RegExp>/tanks/freshWater

Description: Fresh water tank (drinking)

/vessels/<RegExp>/tanks/freshWater/<RegExp>

Description: Tank, one or many, within the vessel

/vessels/<RegExp>/tanks/freshWater/<RegExp>/name

Description: The name of the tank. Useful if multiple tanks of a certain type are on board

/vessels/<RegExp>/tanks/freshWater/<RegExp>/type

Description: The type of tank

Enum values:

- petrol
- fresh water
- greywater
- blackwater
- holding
- lpg
- diesel
- liveWell
- baitWell
- ballast
- rum

/vessels/<RegExp>/tanks/freshWater/<RegExp>/capacity

Units: m3 (Cubic meter)

Description: Total capacity

/vessels/<RegExp>/tanks/freshWater/<RegExp>/currentLevel

Units: ratio (Ratio)

Description: Level of fluid in tank 0-100%

/vessels/<RegExp>/tanks/freshWater/<RegExp>/currentVolume

Units: m3 (Cubic meter)

Description: Volume of fluid in tank

/vessels/<RegExp>/tanks/freshWater/<RegExp>/pressure

Units: Pa (Pascal)

Description: Pressure of contents in tank, especially LPG/gas

---

/vessels/<RegExp>/tanks/freshWater/<RegExp>/temperature

Units: K (Kelvin)

Description: Temperature of tank, especially cryogenic or LPG/gas

---

/vessels/<RegExp>/tanks/freshWater/<RegExp>/viscosity

Units: Pa/s (undefined)

Description: Viscosity of the fluid, if applicable

/vessels/<RegExp>/tanks/freshWater/<RegExp>/extinguishant

Description: The preferred extinguishant to douse a fire in this tank

---

/vessels/<RegExp>/tanks/wasteWater

Description: Waste water tank (grey water)

/vessels/<RegExp>/tanks/wasteWater/<RegExp>

Description: Tank, one or many, within the vessel

/vessels/<RegExp>/tanks/wasteWater/<RegExp>/name

Description: The name of the tank. Useful if multiple tanks of a certain type are on board

/vessels/<RegExp>/tanks/wasteWater/<RegExp>/type

Description: The type of tank

Enum values:

- petrol
- fresh water
- greywater
- blackwater
- holding
- lpg
- diesel
- liveWell
- baitWell
- ballast
- rum

/vessels/<RegExp>/tanks/wasteWater/<RegExp>/capacity

Units: m3 (Cubic meter)

Description: Total capacity

/vessels/<RegExp>/tanks/wasteWater/<RegExp>/currentLevel

Units: ratio (Ratio)

Description: Level of fluid in tank 0-100%

/vessels/<RegExp>/tanks/wasteWater/<RegExp>/currentVolume

Units: m3 (Cubic meter)

Description: Volume of fluid in tank

/vessels/<RegExp>/tanks/wasteWater/<RegExp>/pressure

Units: Pa (Pascal)

Description: Pressure of contents in tank, especially LPG/gas

/vessels/<RegExp>/tanks/wasteWater/<RegExp>/temperature

Units: K (Kelvin)

Description: Temperature of tank, especially cryogenic or LPG/gas

---

/vessels/<RegExp>/tanks/wasteWater/<RegExp>/viscosity

Units: Pa/s (undefined)

Description: Viscosity of the fluid, if applicable

/vessels/<RegExp>/tanks/wasteWater/<RegExp>/extinguishant

Description: The preferred extinguishant to douse a fire in this tank

---

/vessels/<RegExp>/tanks/blackWater

Description: Black water tank (sewage)

/vessels/<RegExp>/tanks/blackWater/<RegExp>

Description: Tank, one or many, within the vessel

/vessels/<RegExp>/tanks/blackWater/<RegExp>/name

Description: The name of the tank. Useful if multiple tanks of a certain type are on board

---

/vessels/<RegExp>/tanks/blackWater/<RegExp>/type

Description: The type of tank

Enum values:

- petrol
- fresh water
- greywater
- blackwater
- holding
- lpg

- diesel
- liveWell
- baitWell
- ballast
- rum

/vessels/<RegExp>/tanks/blackWater/<RegExp>/capacity

Units: m3 (Cubic meter)

Description: Total capacity

/vessels/<RegExp>/tanks/blackWater/<RegExp>/currentLevel

Units: ratio (Ratio)

Description: Level of fluid in tank 0-100%

/vessels/<RegExp>/tanks/blackWater/<RegExp>/currentVolume

Units: m3 (Cubic meter)

Description: Volume of fluid in tank

/vessels/<RegExp>/tanks/blackWater/<RegExp>/pressure

Units: Pa (Pascal)

Description: Pressure of contents in tank, especially LPG/gas

---

/vessels/<RegExp>/tanks/blackWater/<RegExp>/temperature

Units: K (Kelvin)

Description: Temperature of tank, especially cryogenic or LPG/gas

---

/vessels/<RegExp>/tanks/blackWater/<RegExp>/viscosity

Units: Pa/s (undefined)

Description: Viscosity of the fluid, if applicable

/vessels/<RegExp>/tanks/blackWater/<RegExp>/extinguishant

Description: The preferred extinguishant to douse a fire in this tank

---

/vessels/<RegExp>/tanks/fuel

Description: Fuel tank (petrol or diesel)

/vessels/<RegExp>/tanks/fuel/<RegExp>

Description: Tank, one or many, within the vessel

/vessels/<RegExp>/tanks/fuel/<RegExp>/name

Description: The name of the tank. Useful if multiple tanks of a certain type are on board

---

/vessels/<RegExp>/tanks/fuel/<RegExp>/type

Description: The type of tank

Enum values:

- petrol
- fresh water
- greywater
- blackwater
- holding
- lpg
- diesel
- liveWell
- baitWell
- ballast
- rum

/vessels/<RegExp>/tanks/fuel/<RegExp>/capacity

Units: m3 (Cubic meter)

Description: Total capacity

/vessels/<RegExp>/tanks/fuel/<RegExp>/currentLevel

Units: ratio (Ratio)

Description: Level of fluid in tank 0-100%

/vessels/<RegExp>/tanks/fuel/<RegExp>/currentVolume

Units: m3 (Cubic meter)

Description: Volume of fluid in tank

/vessels/<RegExp>/tanks/fuel/<RegExp>/pressure

Units: Pa (Pascal)

Description: Pressure of contents in tank, especially LPG/gas

/vessels/<RegExp>/tanks/fuel/<RegExp>/temperature

Units: K (Kelvin)

Description: Temperature of tank, especially cryogenic or LPG/gas

/vessels/<RegExp>/tanks/fuel/<RegExp>/viscosity

Units: Pa/s (undefined)

Description: Viscosity of the fluid, if applicable

/vessels/<RegExp>/tanks/fuel/<RegExp>/extinguishant

Description: The preferred extinguishant to douse a fire in this tank

/vessels/<RegExp>/tanks/lubrication

Description: Lubrication tank (oil or grease)

/vessels/<RegExp>/tanks/lubrication/<RegExp>

Description: Tank, one or many, within the vessel

/vessels/<RegExp>/tanks/lubrication/<RegExp>/name

Description: The name of the tank. Useful if multiple tanks of a certain type are on board

---

/vessels/<RegExp>/tanks/lubrication/<RegExp>/type

Description: The type of tank

Enum values:

- petrol
- fresh water
- greywater
- blackwater
- holding
- lpg
- diesel
- liveWell
- baitWell
- ballast
- rum

/vessels/<RegExp>/tanks/lubrication/<RegExp>/capacity

Units: m3 (Cubic meter)

Description: Total capacity

/vessels/<RegExp>/tanks/lubrication/<RegExp>/currentLevel

Units: ratio (Ratio)

Description: Level of fluid in tank 0-100%

/vessels/<RegExp>/tanks/lubrication/<RegExp>/currentVolume

Units: m3 (Cubic meter)

Description: Volume of fluid in tank

/vessels/<RegExp>/tanks/lubrication/<RegExp>/pressure

Units: Pa (Pascal)

Description: Pressure of contents in tank, especially LPG/gas

/vessels/<RegExp>/tanks/lubrication/<RegExp>/temperature

Units: K (Kelvin)

Description: Temperature of tank, especially cryogenic or LPG/gas

/vessels/<RegExp>/tanks/lubrication/<RegExp>/viscosity

Units: Pa/s (undefined)

Description: Viscosity of the fluid, if applicable

/vessels/<RegExp>/tanks/lubrication/<RegExp>/extinguishant

Description: The preferred extinguishant to douse a fire in this tank

/vessels/<RegExp>/tanks/liveWell

Description: Live tank (fish)

/vessels/<RegExp>/tanks/liveWell/<RegExp>

Description: Tank, one or many, within the vessel

/vessels/<RegExp>/tanks/liveWell/<RegExp>/name

Description: The name of the tank. Useful if multiple tanks of a certain type are on board

/vessels/<RegExp>/tanks/liveWell/<RegExp>/type

Description: The type of tank

Enum values:

- petrol
- fresh water
- greywater
- blackwater
- holding
- lpg
- diesel
- liveWell
- baitWell
- ballast
- rum

/vessels/<RegExp>/tanks/liveWell/<RegExp>/capacity

Units: m3 (Cubic meter)

Description: Total capacity

/vessels/<RegExp>/tanks/liveWell/<RegExp>/currentLevel

Units: ratio (Ratio)

Description: Level of fluid in tank 0-100%

/vessels/<RegExp>/tanks/liveWell/<RegExp>/currentVolume

Units: m3 (Cubic meter)

Description: Volume of fluid in tank

/vessels/<RegExp>/tanks/liveWell/<RegExp>/pressure

Units: Pa (Pascal)

Description: Pressure of contents in tank, especially LPG/gas

---

/vessels/<RegExp>/tanks/liveWell/<RegExp>/temperature

Units: K (Kelvin)

Description: Temperature of tank, especially cryogenic or LPG/gas

---

/vessels/<RegExp>/tanks/liveWell/<RegExp>/viscosity

Units: Pa/s (undefined)

Description: Viscosity of the fluid, if applicable

/vessels/<RegExp>/tanks/liveWell/<RegExp>/extinguishant

Description: The preferred extinguishant to douse a fire in this tank

---

/vessels/<RegExp>/tanks/baitWell

Description: Bait tank

/vessels/<RegExp>/tanks/baitWell/<RegExp>

Description: Tank, one or many, within the vessel

/vessels/<RegExp>/tanks/baitWell/<RegExp>/name

Description: The name of the tank. Useful if multiple tanks of a certain type are on board

---

/vessels/<RegExp>/tanks/baitWell/<RegExp>/type

Description: The type of tank

Enum values:

- petrol
- fresh water
- greywater
- blackwater
- holding
- lpg
- diesel
- liveWell
- baitWell

- ballast
- rum

/vessels/<RegExp>/tanks/baitWell/<RegExp>/capacity

Units: m3 (Cubic meter)

Description: Total capacity

/vessels/<RegExp>/tanks/baitWell/<RegExp>/currentLevel

Units: ratio (Ratio)

Description: Level of fluid in tank 0-100%

/vessels/<RegExp>/tanks/baitWell/<RegExp>/currentVolume

Units: m3 (Cubic meter)

Description: Volume of fluid in tank

/vessels/<RegExp>/tanks/baitWell/<RegExp>/pressure

Units: Pa (Pascal)

Description: Pressure of contents in tank, especially LPG/gas

/vessels/<RegExp>/tanks/baitWell/<RegExp>/temperature

Units: K (Kelvin)

Description: Temperature of tank, especially cryogenic or LPG/gas

/vessels/<RegExp>/tanks/baitWell/<RegExp>/viscosity

Units: Pa/s (undefined)

Description: Viscosity of the fluid, if applicable

/vessels/<RegExp>/tanks/baitWell/<RegExp>/extinguishant

Description: The preferred extinguishant to douse a fire in this tank

---

/vessels/<RegExp>/tanks/gas

Description: Lpg/propane and other gases

/vessels/<RegExp>/tanks/gas/<RegExp>

Description: Tank, one or many, within the vessel

/vessels/<RegExp>/tanks/gas/<RegExp>/name

Description: The name of the tank. Useful if multiple tanks of a certain type are on board

---

/vessels/<RegExp>/tanks/gas/<RegExp>/type

Description: The type of tank

Enum values:

- petrol
- fresh water
- greywater
- blackwater
- holding
- lpg
- diesel
- liveWell
- baitWell
- ballast
- rum

/vessels/<RegExp>/tanks/gas/<RegExp>/capacity

Units: m3 (Cubic meter)

Description: Total capacity

/vessels/<RegExp>/tanks/gas/<RegExp>/currentLevel

Units: ratio (Ratio)

Description: Level of fluid in tank 0-100%

/vessels/<RegExp>/tanks/gas/<RegExp>/currentVolume

Units: m3 (Cubic meter)

Description: Volume of fluid in tank

/vessels/<RegExp>/tanks/gas/<RegExp>/pressure

Units: Pa (Pascal)

Description: Pressure of contents in tank, especially LPG/gas

/vessels/<RegExp>/tanks/gas/<RegExp>/temperature

Units: K (Kelvin)

Description: Temperature of tank, especially cryogenic or LPG/gas

/vessels/<RegExp>/tanks/gas/<RegExp>/viscosity

Units: Pa/s (undefined)

Description: Viscosity of the fluid, if applicable

/vessels/<RegExp>/tanks/gas/<RegExp>/extinguishant

Description: The preferred extinguishant to douse a fire in this tank

/vessels/<RegExp>/tanks/ballast

Description: Ballast tanks

/vessels/<RegExp>/tanks/ballast/<RegExp>

Description: Tank, one or many, within the vessel

/vessels/<RegExp>/tanks/ballast/<RegExp>/name

Description: The name of the tank. Useful if multiple tanks of a certain type are on board

---

/vessels/<RegExp>/tanks/ballast/<RegExp>/type

Description: The type of tank

Enum values:

- petrol
- fresh water
- greywater
- blackwater
- holding
- lpg
- diesel
- liveWell
- baitWell
- ballast
- rum

/vessels/<RegExp>/tanks/ballast/<RegExp>/capacity

Units: m3 (Cubic meter)

Description: Total capacity

/vessels/<RegExp>/tanks/ballast/<RegExp>/currentLevel

Units: ratio (Ratio)

Description: Level of fluid in tank 0-100%

/vessels/<RegExp>/tanks/ballast/<RegExp>/currentVolume

Units: m3 (Cubic meter)

Description: Volume of fluid in tank

/vessels/<RegExp>/tanks/ballast/<RegExp>/pressure

Units: Pa (Pascal)

Description: Pressure of contents in tank, especially LPG/gas

---

/vessels/<RegExp>/tanks/ballast/<RegExp>/temperature

Units: K (Kelvin)

Description: Temperature of tank, especially cryogenic or LPG/gas

---

/vessels/<RegExp>/tanks/ballast/<RegExp>/viscosity

Units: Pa/s (undefined)

Description: Viscosity of the fluid, if applicable

/vessels/<RegExp>/tanks/ballast/<RegExp>/extinguishant

Description: The preferred extinguishant to douse a fire in this tank

---

/vessels/<RegExp>/design

Title: design

Description: Design/dimensional data of this vessel

/vessels/<RegExp>/design/displacement

Units: kg (Kilogram)

Description: The displacement of the vessel

/vessels/<RegExp>/design/aisShipType

Description: The ais ship type see http://www.bosunsmate.org/ais/message5.php

Object value with properties

- id
- name

/vessels/<RegExp>/design/draft

Title: draft

Description: The draft of the vessel

Object value with properties

- minimum (m)
- maximum (m)
- current (m)
- canoe (m)

/vessels/<RegExp>/design/length

Title: length

Description: The various lengths of the vessel

Object value with properties

- overall (m)
- hull (m)
- waterline (m)

/vessels/<RegExp>/design/keel

Title: keel

Description: Information about the vessel's keel

/vessels/<RegExp>/design/keel/angle

Units: rad (Radian)

Description: A number indicating at which angle the keel currently is (in case of a canting keel), negative to port.

/vessels/<RegExp>/design/keel/lift

Units: ratio (Ratio)

Description: In the case of a lifting keel, centreboard or daggerboard, the part of the keel which is extended. 0 is 'all the way up' and 1 is 'all the way down'. 0.8 would be 80% down.

/vessels/<RegExp>/design/beam

Units: m (Meter)

Description: Beam length

/vessels/<RegExp>/design/airHeight

Units: m (Meter)

Description: Total height of the vessel

/vessels/<RegExp>/design/rigging

Title: rigging

Description: Information about the vessel's rigging

/vessels/<RegExp>/sails

Title: sails

Description: Sails data

/vessels/<RegExp>/sails/inventory

Description: An object containing a description of each sail available to the vessel crew

/vessels/<RegExp>/sails/inventory/<RegExp>

Description: 'sail' data type.

/vessels/<RegExp>/sails/area

Description: An object containing information about the vessels' sails.

/vessels/<RegExp>/sails/area/total

Units: m2 (Square meter)

Description: The total area of all sails on the vessel

/vessels/<RegExp>/sails/area/active

Units: m2 (Square meter)

Description: The total area of the sails currently in use on the vessel

/vessels/<RegExp>/sensors

Title: sensors

Description: Sensors, their state, and data.

/vessels/<RegExp>/sensors/<RegExp>

Title: sensor

Description: This regex pattern is used for validation UUID identifier for the sensor

/vessels/<RegExp>/sensors/<RegExp>/name

Description: The common name of the sensor

/vessels/<RegExp>/sensors/<RegExp>/sensorType

Description: The datamodel definition of the sensor data. FIXME - need to create a definitions lib of sensor datamodel types

/vessels/<RegExp>/sensors/<RegExp>/sensorData

Description: The data of the sensor data. FIXME - need to ref the definitions of sensor types

/vessels/<RegExp>/sensors/<RegExp>/fromBow

Description: The distance from the bow to the sensor location

/vessels/<RegExp>/sensors/<RegExp>/fromCenter

Description: The distance from the centerline to the sensor location, -ve to starboard, +ve to port

/vessels/<RegExp>/sensors/<RegExp>/class

Description: AIS transponder class in sensors.ais.class, A or B

/vessels/<RegExp>/performance

Title: performance

Description: Performance Sailing data including VMG, Polar Speed, tack angle, etc.

/vessels/<RegExp>/performance/polarSpeed

Units: m/s (Meters per second)

Description: The current polar speed based on current polar diagram, WindSpeedTrue and angleTrueWater.

/vessels/<RegExp>/performance/polarSpeedRatio

Units: ratio (Ratio)

Description: The ratio of current speed through water to the polar speed.

/vessels/<RegExp>/performance/velocityMadeGood

Units: m/s (Meters per second)

Description: The current velocity made good derived from the speed through water and appearant wind angle. A positive value is heading to upwind, negative to downwind.

/vessels/<RegExp>/performance/velocityMadeGoodToWaypoint

Units: m/s (Meters per second)

Description: The current velocity made good to the next waypoint derived from the speedOverGround, courseOverGround.

/vessels/<RegExp>/performance/beatAngle

Units: rad (Radian)

Description: The true wind beat angle for the best velocity made good based on current current polar diagram and WindSpeedTrue.

/vessels/<RegExp>/performance/beatAngleVelocityMadeGood

Units: m/s (Meters per second)

Description: The velocity made good for the beat angle.

/vessels/<RegExp>/performance/beatAngleTargetSpeed

Units: m/s (Meters per second)

Description: The target speed for the beat angle.

/vessels/<RegExp>/performance/gybeAngle

Units: rad (Radian)

Description: The true wind gybe angle for the best velocity made good downwind based on current polar diagram and WindSpeedTrue.

/vessels/<RegExp>/performance/gybeAngleVelocityMadeGood

Units: m/s (Meters per second)

Description: The velocity made good for the gybe angle

/vessels/<RegExp>/performance/gybeAngleTargetSpeed

Units: m/s (Meters per second)

Description: The target speed for the gybe angle.

/vessels/<RegExp>/performance/targetAngle

Units: rad (Radian)

Description: The true wind gybe or beat angle for the best velocity made good downwind or upwind based on current polar diagram and WindSpeedTrue.

/vessels/<RegExp>/performance/targetSpeed

Units: m/s (Meters per second)

Description: The target speed for the beat angle or gybe angle, which ever is applicable.

/vessels/<RegExp>/performance/leeway

Units: rad (Radian)

Description: Current leeway

/vessels/<RegExp>/performance/tackMagnetic

Units: rad (Radian)

Description: Magnetic heading on opposite tack.

/vessels/<RegExp>/performance/tackTrue

Units: rad (Radian)

Description: True heading on opposite tack.