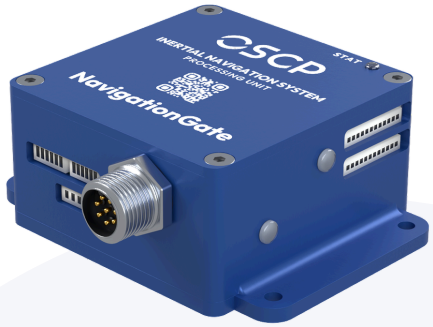
OSCP

NavigationGate

Inertial navigation system processing unit

The compute core that turns an OSCP IMU into an inertial navigation system. It fuses inertial data with dual-antenna, RTK-compatible GNSS and your aiding sensors, and outputs position, velocity and attitude over any of its buses. Navigation performance depends on the IMU, the GNSS and aiding sources, and the configuration.



PVA	2× MMCX	On board	4 host ports	12–34 V	4× M4
POSITION, VELOCITY, ATTITUDE	DUAL-ANTENNA, RTK-COMPATIBLE GNSS	FUSION FILTER	2× UART, CAN, USB-C	SUPPLY, ALSO POWERS THE IMU	MOUNTING

NAVIGATION AND SENSING

Solution output	Position, velocity and attitude, time-stamped with status
Fusion	OSCP Fusion filter, Cortex-M7-class MCU
Inertial input	1× OSCP IMU connector, any OSCP IMU
GNSS	On-board dual-antenna, RTK-compatible; external receivers supported
GNSS antennas	2× MMCX, primary and heading; single antenna supported
Heading	Dual antenna resolves heading at standstill
Aiding and sync	Odometry, airspeed, external heading, SYNC, clock, 1PPS
On board	Barometer, removable microSD

PORTS, POWER, MECHANICAL

Serial	2× FLEX UART: RS-232, RS-422 or RS-485
USB	1× USB-C virtual COM port
CAN	1× CAN 2.0B / CAN FD, configurable termination
Auxiliary	1× SPI, 1× I²C, 2× UART, GPIOs
Port roles	INS output, configuration or aiding input, per port as software releases enable them
Connectors	JST GH or SH signal • JST PH aux. power
Power input	USB-C with USB PD, or auxiliary 12 to 34 V; supplies the IMU
Dimensions	75.5 × 58.5 × 30 mm
Mounting	4× M4, Ø4.3 mm holes
Variants	Enclosed unit • board-level OEM

INPUTS AND AIDING

- Dual-antenna GNSS
- Odometry
- Airspeed
- External heading
- Barometer, on board
- SYNC • 1PPS

COMPATIBLE IMUS



MK2M2
MEMS inertial measurement unit



MK2E2
IMU with an optical Z-axis gyroscope



MK2Z
Prototype IMU with an optical Z-axis gyroscope



MK2Z-3
In development • optical gyroscopes on up to three axes

AVAILABILITY

Status	Preorder, first production batch
Variants	Enclosed unit • board-level OEM
Contact	info@oscp.com, evaluation and integration support