

C-NavX3™ GNSS Receiver



FEATURES

Multi-frequency GPS/GLONASS/Galileo/BeiDou dual antenna position and heading receiver

Sub-decimeter level position accuracy using C-Nav[®] LEO corrections

Sub-degree dual GNSS heading and pitch or roll

Integrated UHF radio, cellular modem (LTE), Bluetooth, and Wi-Fi

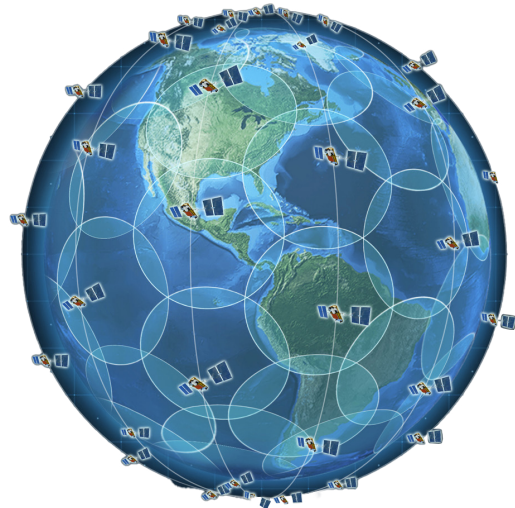
C-NavX3™ GNSS Receiver

Additional Features

- » All-in-view 226 universal tracking channels for navigation plus satellite-based augmentation systems (SBAS), and Iridium® Augmentation
- » Centimeter-level multi-constellation positioning with C-Nav LEO Correction service delivered via Iridium Burst®
- » Dual antenna option for sub-degree GNSS heading
- » Integrated Wi-Fi* (802.11abgn 2.4Ghz)
- » Integrated UHF* (410 - 475 MHz, 12.5/25 KHz Channel Spacing, Satel Protocol)
- » Integrated Cellular (2G, 3G & 4G LTE CAT 1)
- » Integrated Bluetooth* (v5.1/BTE)
- » 1 pulse-per-second (PPS) output
- » Automatic 72 hour rolling data log for incident support (data rate dependent)
- » Compatible with the full suite of C-Nav software, including C-Monitor, C-Scape, and C-NaviGator IV
- » EN60945 Marine Certified
- » Small, rugged GNSS enclosure
- » CAN Interface to the C-NavS3 I/O expansion module



C-NavS3 I/O Expansion Module



Iridium Constellation courtesy of Iridium Communications Inc.

Technical Data

GNSS	
GNSS Engine	Dual Topcon B125 GNSS Chipset
Tracking Channels	2x 226
GNSS Connectors	2x N-Type
GNSS Antenna Option	C-Nav289 GNSS Antenna
GPS	L1 C/A, L1C, L1P, L2C, L2P, L5
GLONASS	G1 C/A, G1P, G2 C/A G2P, G3
Galileo	E1B, E5a, E5b, E5AltBOC
BeiDou	B1, B2 (BDS-2), B1C/B2a/B2b (BDS-3)
QZSS	L1 C/A, L1C, L1-SAIF, L2C, L5
SBAS	L1, L5
Time to First Fix	Hot: < 15 s Warm: < 44 s Cold: 60 s
Reacquisition	1 s
1PPS	Relative accuracy: 30 ns Resolution: 5 ns Wide positive going: 10 ms LVTTL: 3.3 V Impedance: 50 ohm

Position Accuracy (95%) *Requires Iridium Edge Antenna		
	Horizontal	Vertical
Standalone	2.4 m	3.6 m
SBAS	1.6 m	2.4 m
C-Nav [®] LEO PPP*	<5 cm	<10 cm

Heading Accuracy (RMS)
0.2 degrees/D (where D is the baseline length in metres)

Inclination Accuracy (RMS)
0.3 degrees/D (where D is the baseline length in metres)

Hardware I/O	
RS-232 (up to 115,200 bps)	2x DSUB9 Connectors (on S3 output harness)
RS-422 (up to 115,200 bps)	2x DSUB9 Connectors (on S3 output harness)
Ethernet (10/100 Mbps)	1x RJ45 Jack (on main X3 to S3 harness [up to 8 sessions])
1PPS	1x BNC Connector (on S3 output harness)
USB Connector (Virtual Serial)	1x USB (on S3 output harness)

Iridium Edge Antenna Connector	1x M12 (on S3 output harness)
C-NavX3 LTE Connector	1x SMA
C-NavX3 Wi-Fi/Bluetooth Connector	1x SMA
C-NavX3 UHF Connector	1x TNC

Software I/O	
NMEA Output Message Formats	
NMEA	DTM, GBS, GGA, GLL, GNS, GRS, GSA, GST, GSV, RMC, VTG, ZDA, HDT, ROT, VHD
Proprietary NMEA	GGA, GST, MDE, SET

Physical and Environmental	
C-NavX3 Dimensions (L x W x H)	203 mm x 151 mm x 56 mm
C-NavS3 Dimensions (L x W x H)	151 mm x 140 mm x 46 mm
C-NavX3 Weight	1.2 kg
C-NavS3 Weight	0.4 kg
C-NavX3 Power Consumption	12 W
C-NavX3 Voltage Input	9 to 32 V DC (on main X3 to S3 harness)
GNSS Antenna Voltage	5 V DC
GNSS Antenna Current	100 mA (Max)
Iridium Antenna Power Consumption	1.6 W (Max)
Ingress Protection	IP67
Operating Temperature	-40 to 70°C
Storage Temperature	-40 to 80°C
Humidity	95% non-condensing
Vibration	IEC60945, Section 8.7
Compliance/Approvals	IEC 60945:2002 Section 8, Protected NMEA-0183 compatibility up to v4.1 FCC Part 15, Class B CE/UKCA RoHS WEEE QC message strings comply with the recommendations OGP 373-19 and IMCA S015 Rev. 1 (Feb 2021)

*In development



oceaneering.com