NCT-2030M

gps products

The NCT-2030M product is a versatile, low-cost, dual frequency GPS receiver offering 64MB of internal memory for data logging. The GPS sensor delivers sub-millimeter dual frequency carrier phase performance, and where WAAS or EGNOS corrections are available, can achieve half-meter real-time horizontal positioning via two dedicated Satellite Based Augmentation System (SBAS) channels.

A simple software upgrade can add RTK capability, raw data rates up to 50Hz and positioning rates up to 10Hz. The receiver incorporates 1 PPS output and Event-in as standard and provides CAN bus hardware support. The NCT-2030M system comes complete with antenna and cable, universal power supply, serial interface cable and PC software for control and setup.

BENEFITS

The NCT-2030M is a new benchmark for GPS receiver technology including the use of WAAS/EGNOS. The receiver uses our NCT-2100D GPS Engine, the fourth generation of the Touchstone™ ASIC family, of which more than 25,000 are in use worldwide. This proven receiver technology provides leading-edge interference suppression, multi-path mitigation and geodetic quality measurements. Proprietary dual-frequency SBAS processing provides unsurpassed WAAS/EGNOS performance. The NCT-2030M antenna uses a dipole-based design with integral ground plane to provide excellent phase center stability in a small, robust, weatherproof format.

RTK

For real-time centimeter positioning, upgrade your NCT-2030M with the RTK software option and add your choice of external RTK communication link. The RTK algorithm developed by NavCom provides fast, reliable initialization. NavCom's NCT binary format provides an ultra compact data stream for RTK ensuring robust data throughput. In areas of multiple base station coverage, the sensor can utilize NCT, RTCM, CMR or CMR+ data streams.

FLEXIBLE

NavCom provides a long-term upgrade path so your NCT-2030M can grow with your needs. This unit can be upgraded to provide the full functionality of NavCom's SF-2050M StarFire receiver or the RT-3020M RTK receiver with built-in RTK spread spectrum radio.

APPLICATIONS

The rugged nature of the housing makes this new dual-frequency receiver the solution for high accuracy GPS applications in vehicle navigation, machine control, structural monitoring, GIS, survey, hydrography and OEM integration.

FEATURES

- Fully upgradeable receiver in robust housing
- "All-in-view" tracking with 26 channels (12 GPS + 2 SBAS)
- L1 & L2 full wavelength carrier phase tracking
- C/A, P1 & P2 code tracking
- User configurable as base or rover
- User programmable output data and navigation rates
- 64MB internal memory for data recording
- Output format NMEA 0183 or NavCom binary
- Superior interference suppression
- Patented multipath rejection
- LED Display for GPS
- CAN bus hardware compatible
- 1PPS Output (12.5ns relative timing precision)
- Event Marker Input
- TruBlu™ Wireless Connectivity, Bluetooth® compatible

UPGRADES

- Real Time Kinematic with on-the-fly initialization
- Raw data rates up to 50Hz
- Positioning rates up to 10Hz
- Upgrade to the SF-2050M for global StarFire real-time decimeter performance
- Upgrade to the RT-3020M for integrated Spread Spectrum RTK Radio

Rugged, geodetic, dual-frequency sensor with enhanced SBAS performance plus RTK flexibility

NAVCOM

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NCT-2030M
TECHNICAL SPECS

PHYSICAL/ENVIRONMENTAL

- Size: .....8.18in x 5.67in x 3.06in (208mm x 144mm x 78mm)
- Weight with antenna: .....3.6 lbs (1.6 kg)
- External Power:
  Input Voltage: .....10 VDC to 30 VDC
  Consumption: .....< 4 W
- Connectors:
  I/O: .....2 x 7 pin Lemo
  DC Power: .....4 pin Lemo
  RF Connector: .....TNC (4.4 VDC for ant./LNA)
  CAN / Event: .....5 pin Lemo
  1 PPS: .....BNC
- Temperature (ambient):
  Operating: .....-40° to +55°C (-40° to +131°F)
  Storage: .....-40° to +85°C (-40° to +185°F)
- Humidity: .....95% non-condensing
- Tested in accordance with MIL-STD-810F for: low pressure, solar radiation, rain, humidity, salt fog, sand & dust, and vibration

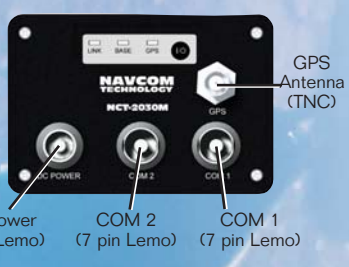
PERFORMANCE [1]

- Measurement Precision (RMS):
  Raw C/A code: .....20 cm @ 42 dB-Hz
  Raw carrier phase noise: .....L1: 0.95 mm @ 42 dB-Hz
  L2: 0.85 mm @ 42 dB-Hz
- Velocity: .....0.01 m/s
- Enhanced SBAS (WAAS/EGNOS) Positioning Accuracy (RMS):
  Horizontal: 0.5m
  Vertical: 0.7m
- RTK Positioning <10kms (Software option) (RMS):
  Horizontal: .....1 cm + 1ppm
  Vertical: .....2 cm + 1ppm
- Code Differential GPS Positioning <200kms (RMS):
  Horizontal: .....12 cm + 2ppm
  Vertical: .....25 cm + 2ppm
- User programmable output rates:
  Position Velocity Time: .....1Hz (10Hz, Optional)
  Raw data: .....1Hz (10Hz, 25Hz, 50Hz Optional)
- Data Latency:
  Position Velocity Time: .....< 20 ms at all rates
  Raw data: .....< 20 ms at all rates
- Time-to-first-fix:
  Cold Start, Satellite Acquisition: .....< 60 seconds (typical)
  Satellite Reacquisition: ..... < 1 second
- Dynamics: (Speed & Altitude restricted by USA export laws)
  Acceleration: .....up to 6g
  Speed: .....< 1,000 knots (515 m/s)
  Altitude: .....< 60,000 ft (18.3km)

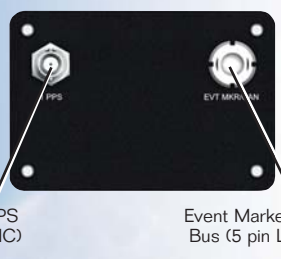
[1] *Performance dependent on location, satellite geometry, atmospheric conditions and GPS corrections.*

COMMUNICATIONS

- Messages:
  Data/Control: .....NCT Binary Messages
  NMEA: .....ALM, GGA, GLL, GSA, GST, GSV, RMC, VTG, ZDA
- Corrections: .....RTCM Code (Msg. 1, 3 & 9)
  SBAS (WAAS/EGNOS)
  StarFire™ (Factory Upgrade)
- RTK Corrections: .....NCT Proprietary
  (Optional) RTCM (Msg. 18/19 or 20/21)
  CMR (Msg. 0, 1, 2)
  CMR+



Back Panel NCT-2030M



Technical specifications are subject to change at NavCom's discretion.
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