

DGPS-220

GPS Combined Beacon/Receiver



DGPS-220 is an integrated GPS/Beacon receiver with built-in antennas that provides differential corrected GPS positioning data in NMEA-0183 format for navigation requiring high degree of accuracy. DGPS-220 (USCG Compatible).

GPS Receiver General

Signal Processing

Antenna: High reliability ceramic patch
Antenna LNA gain: 26 \pm -2dBi, NF: 2.0dBmax
Frequency: 1575.42MHz, C/A code L1
Number Channels: 8 channel all-in-view algorithm tracks and uses up to 8 satellites
Update Rate: 1 second continuous
Dynamics: Up to 49m/s.s (tracking sustained)
Datum: WGS8

Accuracy

GPS position fixing:
Position: 15m (2DRMS) (L1,C/A code, HDOP \leq 4 without SA)
Speed: 0.1Kt RMS (L1,C/A code, HDOP \leq 4)

Time to First Fix

Cold Start: 90 sec.
Warm Start: 20 sec.
Reacquisition: 2 sec.

Beacon Receiver General

Signal Processing

Frequency Range: 283.5-325.0kHz
Channel Spacing: 500Hz
Frequency resolution: 0.01Hz
Minimum Signal Strength: < 5 μ V/m @100bps
Dynamic Range: > 90dB
Adjacent Channel Rejection 60dB @ 1kHz
Acquisition Time: < 2 sec., manual command
< 2 sec, automatic warm start
< 1 min. automatic cold start
Selection of station: Automatic or manual
Signal Detection: Direct digital synthesis

Data Processing

Demodulation: MSK (Minimum Shift Keying)
Error detection: Parity error check
MSK Bit Rates: 50, 100, 200 (automatic)

Combined Receiver General

Data Ports

Monitor/Control Port: RS-232 @ 4800 baud
Control Format: NMEA 0183
Housing: 7 pin circular, hermetically sealed
Pins: Gold plated for anti-corrosion

Power Requirements

Input Voltage: 10-40V DC reverse protection
Power Consumption: < 5W @ 12V DC (max)

Environmental

Operating Temperature: -30°C to 75°C
Storage Temperature: -40°C to 85°C
Relative Humidity: 95% non-condensing

Physical

Height: 3.8"
Diameter: 4.5"
Weight: < 3"
Enclosure: High impact, corrosion-proof PC (polycarbonate) resin
Construction: Hermetically sealed, fully waterproof
Mounting: Pole mount to 1"-14 threaded pipe

OEM Options

Sentence available: GGA, GLL, GSA, GSV, VTG, RMC, ZDA
Output interval: 0 to 60 sec. selectable
Operating mode: 2D, or 2D/3D automatic
Satellite masks: SNR, Elevation, PDOP
Type of interface: RS-232 (standard), RS-422 (optional)
Datum: One of the 171 datum supported
Extend input voltage: Up to 60V DC

** Specifications subject to change without prior notice
* Subject to degradation of position to 100m 2DMRMS under US Department of Defense imposed Selective Availability Program

Ordering Information

Part Number	Description
⚡ DGPS-220	⚡ Smart GPS / Antenna / Differential Beacon Receiver



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