

GPS COMPASS

Target Locating Module



The Navtech NTS-TLC Target Locating GPS Compass provides TRUE heading from the GPS satellites. By simultaneous and coincident constellation tracking, two receivers with common processing derive the local GPS position, differential GPS corrections and heading with respect to True (geographic) North.

By using high precision differential carrier phase measurements heading accuracies to better than 0.5 degrees can be achieved with antennas separated on a 1-meter base line.

The compass can be used for the bore sight alignment of a long range telescope, video camera or the alignment of tracking systems (radars) used in such applications as border surveillance. Using an integrated Target Positioning feature that uses the inherent high accuracy GPS position as the camera/telescope/radar location, direction (heading) of pointing; the target position is calculated using range input data given by a conventional range finder.

This NTS-TLC is an order of magnitude more accurate than a conventional magnetic compass and does not have variation or deviation errors. The only constraint is that the two GPS antennas are mounted on the bore sight axis of the telescope or camera some 40 cm apart with a clear view of the sky.

The derived GPS position is differentially corrected for sub meter accuracy for location that enhances the system to yield inherent precision and ease of use.

The user interface is comprehensive and flexible with standard interface protocols for simplicity of integration. For dynamic applications tilt and turn rate sensing (gyro) aiding is included, configured by user commands. A robust and comprehensive user interface with an isolated dc/dc power converter, RF signal path processing and dual port RS232 drivers provides a versatile Heading Sensor/Target locating device for a variety of applications that is not affected by magnetic deviation influences or variation offsets.

The user interface also provides filtered and current limited antenna power for the GPS antennas.

Interface Specification

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| GPS antennas | Separation 0.4 to 1 meter base line |
| Connections | Antennas, Power & Data i/o |
| Power | 9 to 16 volts dc (0.25 Amps max) |
| Interface | 2 ports RS232, configurable baud rate (default 19,200) Port A Range input (Typical \$xxWDR) Port B Position, Heading and Target location (Typical output NMEA Messages \$GP - GGA, RMC, GSV & HDT, WPL + Binary data – all configurable to user requirement) |



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