



iTrax300

OEM GPS Receiver Module

- **iTrax MP Compatible receiver**
- **Ultra High Sensitivity with SiRFstarIII**
- **Market leading Navigation Performance**
- **Extremely Fast TTFF**



OEM receiver for many Applications

Fastrax iTrax300 OEM GPS receiver module enables high performance navigation in the most stringent applications and solid fix even in harsh GPS visibility environments.

The iTrax300 receivers are ideally suited for both industrial tracking and navigation systems and battery operated consumer products like sports accessories, handheld computers, asset tracking devices, vehicle navigation devices and mobile phones.

The iTrax300 receiver is pin compatible with iTrax MP (Multiplatform) family of receivers to ensure optimized solution for various needs.

Market Leading System Performance

Extremely fast TTFF enables fast re-acquisitions in harsh urban canyon or blocking environments. It also enables low power consumption in special power management operating modes.

User configurable power management makes iTrax300 one of the lowest power consuming, complete 20-channel OEM GPS receivers on the market. The Adaptive TricklePower™ mode enables low power consumption but which adapts itself to weak signal conditions with full power acquisition and tracking.

iTrax300 Key Features:

- iTrax MP compatible
- SiRFstarIII chip set
- Tiny form factor – 16.2mm x 18.8mm x 2.3mm
- Low power consumption: 110mW @ 3.0V
- Ultra High Sensitivity –158 dBm (Tracking)
- NMEA & SiRF binary protocols
- Two serial ports
- 1PPS output
- GPIO available for custom purposes
- WAAS/EGNOS/MSAS support

The Push-to-Fix™ mode keeps the GPS time and satellite data valid allowing fast navigation fix on demand.

Cutting component costs

Space and costs are reduced due to the cutting-edge technology in the iTrax300 receivers. The surface mount SMD design eliminates need for expensive and labor intensive system and RF connectors. Very few additional components are required.

Quick Start with Easy-To-Deploy Solution

The addition of an antenna and power supply is all that is required to make the iTrax300 operational. The module supports also dedicated control inputs for external control for the operating state. The Fastrax Engineering Services team can provide antenna design application notes to aid in further refinement of the antenna design for specific applications.



Specifications

General: L1 frequency, C/A code (SPS)
 20 independent tracking channels
 Separate search and acquisition engine

Update rate: 1 fix/s (user configurable)

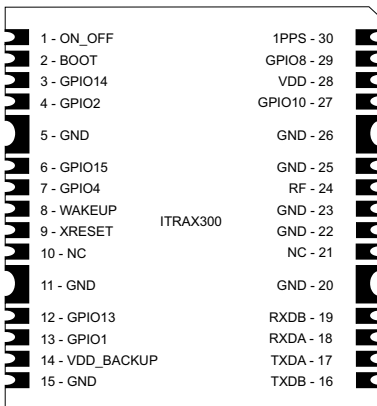
Accuracy: Position: 1.5 m (CEP50)
 1.8 m (CEP95)
 Velocity: 0.1m/s
 Time: +/-1μs

TTF: Cold Start (out of the box): 40s typ.
 Warm Start 30s typ.
 Hot start: 2s typ.

Sensitivity: Acquisition (cold): -143dBm
 Navigation: -158dBm
 Tracking: -158dBm

Power Drain (3.0V):
 Navigating 1 fix/s: 110mW typ.
 Stand-by state: 3mW typ.
 Backup state: 45 μW typ.

Operating voltage:
 Main Supply: +3.0V..3.3V
 Back up Supply: +2.5V..3.3V



iTrax300

Operating temperature: -40C*..+85C
 * Increased TTFF times may occur when operating temperature is between -40C and -30C

Storage temperature: -40C..+85C

I/O ports: 30 contact LGA
 Two asynchronous serial ports
 1PPS output
 8xGPIO (one interrupt capable)

Protocol: NMEA 0183
 SIRF Binary Protocol

Dimensions: 16.2mm x 18.8mm x 2.3mm (2.5 max)

Weight: 1.6 g

Antenna Input: LGA pad, 50ohm

Antenna bias: same as VDD

Chipset: SIRF GSC3-LP

SW Features: Adaptive TricklePower
 Push-to-Fix
 Extremely fast TTFF

Application board:

