

iTrax02

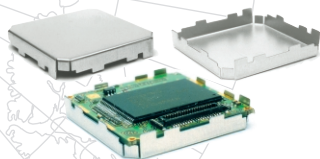


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- Ultra Low Power Consumption
- Tiny Form Factor
- Market Leading Performance

iTRAX02 Key Features:

- Tiny PCB form factor – 26mm x 26mm x 4.7mm (including RF shield and system connector).
- Ultra-low power consumption – 130mW @ 2.7V in continuous operation
- Very Fast TTFF
- Sensitivity –150dBm (Tracking)
- iTALK and NMEA0183 protocols
- Versatile interface ports
- Accurate 1PPS timing output
- iTRAX02/8 – 8MBit Flash Memory
- iSUITE SDK Software Development Kit
- iTRAX02/4 – 4MBit Flash Memory
- NMEA Engine



GPS Receiver Module

Fastrax's iTrax02 GPS receiver modules enable the implementation of full-fledged positioning features into any appliance faster and with less effort than ever before. Offering industry-leading benefits in performance, size, power consumption and versatility, the iTrax02 receivers are ideally suited for both industrial tracking systems and battery-operated consumer products like mobile phones, asset tracking devices, handheld computers and sports accessories.

Market Leading System Performance

Ultra-low, user configurable power management makes iTrax02 the lowest power consuming, complete 12-channel GPS receivers on the market. Nevertheless, there are no compromises in performance. The iTrax02 receivers have a navigation sensitivity as low as –150 dBm making them applicable even for extremely demanding applications and environments.

Cutting component costs

Space and costs are reduced due to the cutting-edge technology architecture in the iTrax02 receivers. All navigational data is stored in Flash memory with simple commands and thus no back-up battery is required. This benefit can easily be converted to smaller component costs and smaller design – crucial parameters for many projects.

iTRAX02/8 – Versatile Programmability

The iTrax02/8 features 8MBit Flash memory allowing versatile programmability with the iSuiteSDK (Software Development Kit). Application costs are reduced significantly when no external processor is needed and the iTrax02 is used as a microprocessor. With fewer components, cost and application size are reduced.

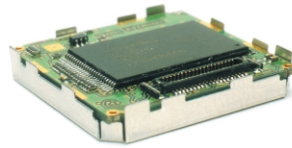
iTRAX02/4 – cost efficient performance

In applications where the industry standard NMEA0183 protocol is sufficient and programmability is unnecessary, the iTrax02/4 with 4MBit Flash memory, is a cost efficient and high performance alternative.

Quick Start with Easy-To-Deploy Solution

The addition of an antenna and power supply is all that is needed to make the iTRAX02 operational. The Fastrax support team can provide antenna design application notes to aid in further refinement of the antenna design for specific applications.

GPS Receiver Module



Specifications

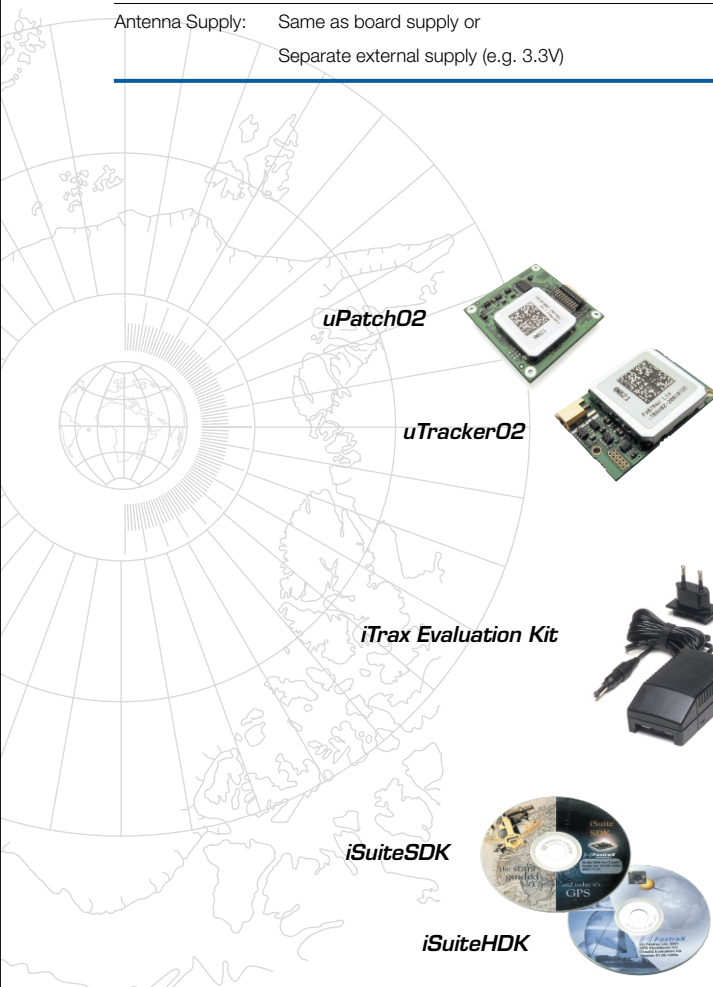
General:	L1 frequency, C/A code (SPS) 12 independent tracking channels Separate search & acquisition engine Based on two-chip GPS solution - RF chip, uN8021 - Base band chip, uN8031	Antenna:	External, passive or active
Update rate:	1 fix/s or user configurable	Power Drain:	130mW @ 2.7V (in continuous mode) (Active antenna power not included)
Accuracy:	Position: 3m (CEP), 6m 2DRMS Velocity: 0.2 m/s (50%) Time: 20ns RMS (static mode)	I/O Ports:	Dual Asynchronous data ports 16-bit GPIO SPI-Interface Dual Pulse Measurement inputs 1PPS Output
Reacquisition:	100ms typical (signal reacquisition)	Protocol:	NMEA-0183 V3.0 Proprietary iTALK binary protocol
TTFF:	Cold Start: 50 s typical Warm Start: 35 s Hot Start: 8 s Quick Start: 3 s	Processor:	Proprietary, 32MIPS integrated 16-bit DSP-core RISC-like programming under Pre-emptive Real Time Operating System Control (VSDSP RTOS)
Dynamics:	Acceleration: 4 G Jerk: 4 m/s ³	Flash Memory:	iTRAX02/8: 8Mbits Flash iTRAX02/4: 4Mbits Flash
Sensitivity:	-150dBm (tracking)	Dimensions:	26 mm x 26 mm x 4.7 mm (Including RF shield and connector)
Operating Voltage:	2.7V...3.3V (linearly regulated)	Weight:	4 g
Operating Temp:	-40C...+85C	System Connector:	AMP 4-353515-0 (RF and I/O) 2 x 20 pin, 0.5 mm pitch
Antenna Supply:	Same as board supply or Separate external supply (e.g. 3.3V)	Mating Connector:	AMP 4-353512-0

Other Fastrax GPS products

Fastrax other GPS products include modules like **uTracker02** and **uPatch02**. Both products include a iTrax02 GPS receiver and on-board regulators. The uTracker02 has furthermore a **MCX antenna** connector for easy integration while the uPatch02 has RS232 drivers and a already integrated and optimized **Patch antenna**. For easier evaluation Fastrax offers an **iTrax02 Evaluation kit** that includes a universal power supply, two serial cables, an active antenna, a user's manual and a CD with documentation and the **GPS WorkBench**.

For programming the iTrax02/8 Fastrax offers a **iSuiteSDK** (software development kit). In addition to the software the iSuiteSDK includes two days of hands on training and e-mail

support during development. For application that use an external host processor Fastrax offers a free **iSuiteHDK** (host development kit) to registered users at www.fastrax.fi. The iSuiteHDK includes documentation and source code to Fastrax binary protocol, iTalk.



Separate product descriptions can be found at www.fastrax.fi