



## TM3000™ ASSET TRACKING DEVICE

### KEY FEATURES

- Open, flexible platform supports multiple revenue-generating services
- Efficient, high-volume manufacturing reduces operating overhead and increases return on capital employed
- Robust architecture with a focus on zero defects enhances QoS and brand image
- Over-the-air programmable for future service enhancements and lower maintenance costs

### THE SERVICE PROVIDER'S BURDEN

The pressure of differentiating service while maximizing recurring revenue forces many providers to develop and produce hardware. This has been a necessary distraction and expensive burden, since the limitations of off-the-shelf "boxes" require too many compromises. Developing hardware, keeping pace with evolving technologies and managing an efficient supply chain all place an unwelcome toll on the P&L for service-focused businesses.

### TRIMBLE'S SOLUTION

The Trimble® TM3000™ asset tracking device is an open, flexible platform adaptable to a broad range of vehicle monitoring, management and recovery services. The TM3000 asset tracking device integrates a GSM/GPRS modem, a GPS receiver, an independent application sub-system and an array of peripheral interfaces in a small, robust, cost-effective package. The TM3000 asset tracking device hosts your application software, allowing you to custom tailor its operation to your service requirements.

Trimble offers a development system to support both porting and new software development efforts. Create the software yourself or Trimble can connect you with a third party developer familiar with the TM3000 asset tracking device. Either way, your time to market will be measured in weeks rather than months.

Contact a Trimble representative to learn how the TM3000 asset tracking device can advance your service offering and improve your P&L.

### Applications

- Vehicle tracking and recovery
- Fleet management
- Activity-based insurance
- Driver monitoring
- Toll collection
- Telematics
- Roadside assistance



# TM3000 ASSET TRACKING DEVICE

## OVERVIEW

The TM3000 asset tracking device comprises the following functional elements:

- GSM/GPRS/SMS modem
- Application processor
- Power supply
- GPS receiver
- Interface section
- Enclosure
- Options and accessories

## GSM/GPRS/SMS MODEM

To support bi-directional communication with the data center, TM3000 includes one of the following quad-band GSM modem options:

- Enfora Enabler™ III
- O<sup>3</sup> GPRS/SMS
- Cinterion MC55i
- No Modem

## GPS RECEIVER

An internal GPS receiver transmits position, velocity and time information at a 1 Hz rate to the application processor. The TM3000 asset tracking device supports an external GPS antenna. Typical, autonomous GPS performance characteristics under clear view, static conditions include:

Position accuracy ..... <2.5 m CEP  
Acquisition time ..... <3 s Hot  
Tracking sensitivity ..... -159 to -160 dBm

## APPLICATION PROCESSOR

The TM3000 asset tracking device is an open, flexible platform designed to support customer-developed applications and over-the-air programming. The application subsystem consists of the following elements:

- ARM7 processor
- Real-time clock (RTC)
- 4 MB of flash memory
- 2 MB of RAM

## INTERFACE SECTION

The 24-pin connector on the TM3000 asset tracking device supports a broad array of external interfaces. All external interface pins are protected against shorts to both ground and main power and ESD.

Digital inputs ..... 4  
Analog inputs ..... 4  
Digital outputs ..... 4  
RS-232 serial ports ..... 2

## Power Supply

The TM3000 asset tracking device supports connection to (1) main battery power, (2) ignition/switched power and (3) ground.

Voltage (main and switched) ..... 9 to 30 V DC  
Power Consumption (@ 12 V DC):  
Standby ..... .5 mA  
Idle ..... .15 mA  
Peak ..... 1.0A

## Enclosure

Molded from high-temperature, automotive-grade plastic with integral mounting tabs, the TM3000 system is designed for permanent installation in vehicles.

Protection ..... IP54  
Dimensions ..... 115 mm x 78 mm x 26 mm  
Connectors:  
Power and Interface ..... 24-pin  
GPS antenna ..... SMA  
GSM antenna ..... Internal

## OPTIONS

The TM3000 asset tracking device supports the following hardware load options:

- Rechargeable NiMH backup battery
- Bluetooth
- Memory Expansion (8 MB Flash + 4 MB RAM)
- Motion detector
- Dead Reckoning (DR)
- CANbus
- USB
- Daughter card

## Accessories

- Driver ID Peripheral
- IP67 Enclosure
- GPS antenna
- Interface cable
- NiMH battery
- Software Integrator's kit

## Environment

Operating temperature ..... -40 °C to +85 °C<sup>1</sup>  
Storage temperature ..... -40 °C to +85 °C  
Operating humidity ..... 5% to 95% non condensing @ +40 °C

## Regulatory Approvals and Certifications

- PTCRB and GCF CC
- FCC Parts 15, 22, and 24
- Industry Canada
- CE Mark
- E Mark
- EC R&TTE Directive

<sup>1</sup> Temperature range is outside of GSM operating temperature range

Trimble has relied on representations made by its suppliers in certifying this product as RoHS compliant. Specifications subject to change without notice. Trimble Navigation Limited is not responsible for the operation or failure of operation of GPS satellites or the availability of GPS satellite signals.

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