


## AT100 GPS-GPRS Vehicle Tracking Device



- ☺ Very compact dimensions - for ease of installation
- ☺ Low power consumption – no problems with vehicle battery drain
- ☺ Wide DC power input – no need for voltage droppers
- ☺ Internal back-up battery – 6 hrs continuous operation or 3 days in hourly update mode
- ☺ Quad band GSM/GPRS modem – ensures global compatibility
- ☺ GPRS (TCP or UDP) and SMS (PDU) modes
- ☺ GPS NMEA serial port
- ☺ GPS and GSM status LEDs
- ☺ Simple and flexible user configuration by ASCII terminal, SMS or GPRS
- ☺ Remote diagnostics by GPRS or SMS
- ☺ 6 digital inputs
- ☺ Load switch – for remote control of an external device
- ☺ analogue (ADC) input
- ☺ On-board power management
- ☺ On-board zone alarm function, incl. London Congestion Zone
- ☺ Over the air firmware update
- ☺ Modular plug-in solutions for RFID, Dallas Key and temperature monitoring
- ☺ Pass through data mode
- ☺ Intelligent and efficient reporting protocols – to minimise airtime usage and cost
- ☺ 3 year warranty included as standard
- ☺ Designed in the United Kingdom 

## The AT100 – Bringing Intelligence into GPS Telematics

The AT100 was designed in close co-operation with developers of fleet management application services. This sets it apart from many other GPS telemetry products, which simply gather and send raw GPS data to the host. The AT100 reports on user configurable intervals, based on the following parameters:

- Stationary elapsed time
- Idling elapsed time
- Journey elapsed time
- Journey distance travelled
- Journey heading changes
- Journey starts and stops
- Idling starts and stops
- Overspeed events
- Input changes of state
- Status changes, such as low battery, disconnection of external power or GPS timeout
- Zone alarms or geofence events

At the end of a journey, the AT100 reports summary information including distance, time, maximum speed, maximum acceleration, maximum deceleration (braking) and idle time for the journey.

The AT100 reports in real-time over GPRS (TCP) with fallback to SMS mode if desired. In the event of a communications failure (e.g. due to network coverage), reports are stored in non-volatile memory and sent at the first available opportunity. The AT100 has sufficient capacity to store 6,000 reports in a circular buffer.

The AT100 has the most advanced power management features in the industry. Continuous mode power consumption is typically less than 300mW, which is less than 12mA when used in a 24V vehicle! In addition to this, the AT100 has intelligent power-saving modes which extend battery life significantly without impacting on the operational effectiveness of the system. Please refer to the power saving application note for more detailed information.

Reported data includes the following:

- Time/date
- Latitude and longitude
- Instantaneous speed
- Heading
- Altitude
- Reason code (indicates reason for report as timed, movement, alarms etc)
- Status code (indicates device status info. such as low battery or GPS timeout)
- Digital I/O states
- Analogue input levels
- Internal battery voltage
- External input voltage
- Network roaming status
- Maximum journey speed (max hold)
- Maximum acceleration and deceleration (max hold)
- Journey distance travelled
- Idle time (incl. start and end of idling events)
- Data from external devices, such as an RFID reader or temperature recorder

## TECHNICAL SPECIFICATIONS

<b>E-GSM/GPRS Modem:</b>	2 Watts (E-GSM900 and GSM850 Class 4) 1 Watt (GSM1800 and GSM1900 Class 1) GPRS multi-slot class 10
<b>GSM up-link (TX): Frequencies</b>	824 – 849 MHz, 880 – 915 MHz, 1710 - 1785 MHz, 1850 – 1910 MHz
<b>GSM down-link (RX): Frequencies</b>	869 – 894 MHz, 925 - 960 MHz, 1805 - 1880 MHz, 1930 - 1990 MHz
<b>GPS Receiver:</b>	
L1 receiver:	12 channels
Position accuracy:	3m CEP, 6m 2DRMS
Velocity accuracy:	0.2m/s (50%)
Time accuracy:	20nS RMS
Receiver sensitivity:	-152dBm (tracking)
TTFF: Cold start	35 sec
Hot start	8 sec
Quick start	3 sec
Re-acquisition	1 sec (after 5 minute signal blackout)
<b>Input voltage:</b>	6 – 30 volts DC
<b>Internal Battery:</b>	3.7V, 660mAh
<b>Battery Life:</b>	6 hours continuous operation 3 days operation in hourly update mode
<b>Data transfer modes:</b>	SMS PDU (up to 4 reports per SMS) GPRS (TCP) GPRS (UDP)
<b>Inputs/outputs:</b>	6 digital inputs (opto-coupled) 1 load switch (max 0.5A, 30V) 1 ADC input (10 bit resolution) 1 RS232 serial port (NMEA + configuration + external device interface)
<b>Current consumption, maximum:</b>	350mA @ 6.0 VDC 175mA @ 12 VDC 90mA @ 24 VDC
<b>Current consumption, average:</b>	
CONTINUOUS	11 mA @ 28VDC
LOW POWER MODE	2mA @ 28VDC
SLEEP MODE	<1mA @ 28VDC
<b>Dimensions:</b>	85 x 47 x 15 mm (3.3" x 2.0" x 0.6")
<b>Weight:</b>	120g
<b>Temperature</b>	
Operating	-20 to +60°C
Storage	-30 to +85°C
<b>Connectors</b>	
GPS	SSMB
GSM	MCX
Data	Hirose 3500 series, 36 way
Power	Molex Microfit 3.0mm (4 way, dual row plug)
<b>Product Approvals:</b>	CE, 2004/104/EC

**Note: Specifications may change without notice.**