


AT100 Compact GPS/GPRS Tracking Module



- ☺ 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 – 8 hrs continuous operation or 3 days in hourly update mode
- ☺ Quad band GSM/GPRS modem – ensures global compatibility
- ☺ GPRS (TCP) and SMS (PDU) modes
- ☺ GPS NMEA serial port
- ☺ GSM AT serial port
- ☺ GPS and GSM status LEDs
- ☺ Built in MEMS based motion sensor – wake on movement function (option)
- ☺ Simple and flexible user configuration by ASCII terminal, SMS or GPRS
- ☺ Remote diagnostics by GPRS or SMS
- ☺ 6 digital inputs
- ☺ 2 load switches – for remote control of external devices
- ☺ 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, MDT and temperature monitoring
- ☺ Intelligent and efficient reporting protocols – to minimise airtime usage and cost
- ☺ 3 year warranty included as standard
- ☺ Designed and manufactured 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
- Journey elapsed time
- Journey distance travelled
- Journey heading changes
- Journey starts and stops
- Input changes of state
- Status changes, such as low battery, disconnection of external power or GPS timeout
- Zone alarms or geofence events
- London Congestion Zone entry/exit reporting

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 over 10,000 reports in a circular buffer.

The AT100 has the most advanced power management features in the industry. Continuous mode power consumption is 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.

The most basic solution requires only a GPS/GSM antenna and connection to a power source.

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
- Data from external devices, such as an RFID reader or temperature recorder

TECHNICAL SPECIFICATIONS

E-GSM/GPRS Modem:	2 Watts (E-GSM900 and GSM850 Class 4) 1 Watt (GSM1800 and GSM1900 Class 1) GPRS multi-slot class 10
GSM up-link (TX): Frequencies	824 – 849 MHz, 880 – 915 MHz, 1710 - 1785 MHz, 1850 – 1910 MHz
GSM down-link (RX): Frequencies	869 – 894 MHz, 925 - 960 MHz, 1805 - 1880 MHz, 1930 - 1990 MHz
GPS Receiver:	
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)
Input voltage:	6 – 30 volts DC
Internal Battery:	3.7V, 660mAh
Battery Life:	8 hours continuous operation 3 days operation in hourly update mode
Data transfer modes:	SMS PDU (up to 4 reports per SMS) GPRS (TCP) GPRS (UDP)
Inputs/outputs:	6 digital inputs (opto-coupled) 2 load switches (max 0.5A, 30V) 1 ADC input (10 bit resolution) 2 RS232 serial ports (GPS and GSM)
Current consumption, maximum:	350mA @ 6.0 VDC 175mA @ 12 VDC 90mA @ 24 VDC
Current consumption, average:	
CONTINUOUS	11 mA @ 28VDC
LOW POWER MODE	2mA @ 28VDC
SLEEP MODE	<1mA @ 28VDC
Dimensions:	85 x 47 x 15 mm (3.3" x 2.0" x 0.6")
Weight:	120g
Temperature	
Operating	-20 to +60°C
Storage	-30 to +85°C
Connectors	
GPS	SSMB
GSM	MCX
Data	Hirose 3500 series, 36 way
Power	Molex Microfit 3.0mm (4 way, dual row plug)
Product Approvals:	CE, 2004/104/EC

Note: Specifications may change without notice.