

## Application Note: AT100 Motorcycle Applications

### Overview

The AT100 is one of the most compact and power efficient GPS/GPRS tracking devices available, and is therefore well suited to motorcycle fleet management and security applications.

### Power Management

Continuous operation provides real-time detailed journey reporting and consumes approx. 300mW (average). This mode is feasible when installed on motorcycles, but the battery may be run down after more than a week left stationary. To avoid this problem, we recommend the use of a battery optimiser whilst the motorcycle is parked for more than a few days. For suitable battery optimiser solutions, refer to:

<http://www.accumate.co.uk/>

<http://www.oxprod.com/>

<http://www.mandp.co.uk/home.aspx>

If use of an optimiser is not practical, it will be necessary to make use of one of the AT100's power saving modes. There are two options. The first is to configure the AT100 to power down when the motorcycle ignition is off. This mode is enabled by setting IGM=2. The second option is to configure the AT100 to wake on movement and sleep whilst stationary. This option has the benefit of not requiring an ignition sense to be connected during installation.

Please refer to the AT100 Power Saving Modes application note for further details of power saving modes and battery life.

### Antenna Selection

We recommend the use of a weatherproof antenna, as it is not always possible to find suitable mounting area which is protected from the elements. The AE003 puck antenna is an ideal choice, due to its small dimensions and water-resistant properties.

## Mounting options

The usual solution is to remove the seat to gain access to the area used to mount the battery, ECU and sometimes a small luggage storage area. This is a convenience point to pick up power and there is usually plenty of opportunity to mount the AT100 and antenna inside the plastic cowling which surrounds the rear seat and light cluster. Touring style motorcycles (with more substantial bodywork) may have opportunities to install the AT100 in the front fairing area or instrument cowlings.



## Immobilisation Options

It is possible to immobilise the motorcycle remotely, using the AT100 load switches. For details, please refer to the separate application note on vehicle immobilisation.

## Installation

In most cases, it will be necessary to provide some kind of ingress protection, as there is usually no suitably protected area on motorcycles. A simple, low-cost and effective solution is to use heat-shrink sleeving to encapsulate the AT100. The open ends can then be sealed with silicone sealant. We recommend the use of a clear silicone sealant so that the LEDs are visible after sealing. The AT100 can then be fixed inside the rear cowl (underseat area at rear of bike) or front fairing using double sided foam adhesive tape.

Recommended Materials ( [www.rswwww.com](http://www.rswwww.com) ):

heat-shrink, 40mm bore, 2:1 ratio	RS PN 484-8935	£13.77 for 5m
silicone sealant, clear	RS PN 555-588	£4.17 100g tube
double sided foam adhesive tape	RS PN 846-345	£5.31 per reel

Recommended Tools:

Hot air gun	RS PN 386-5103	£45.49
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## Installation Procedure:

1. Insert SIM card into AT100 and configure/test.
2. Connect the chosen antenna and power harness.
3. Tape over the data connector to protect from silicone contamination
4. More a more covert installation, tape over the LEDs with black insulating tape
5. Slide heat shrink sleeve over the AT100 and trim to length, allowing approx. 15mm excess either end.
6. Use a hot air gun to shrink the sleeving, taking care not to scorch or melt the cables protruding from either end.
7. Allow to cool, then attach double sided tape to one side.
8. Seal each end with clear silicone sealant, taking care to completely fill the opening.
9. Allow sealant to cure (if preparing in advance).
10. Select mounting location on motorcycle for both AT100 and antenna.
11. Clean mounting areas with a degreasing solvent or wipe.
12. Peel back double sided tape and attach AT100 and antenna.
13. Connect ignition input (if required)
14. Connect AT100 power input to motorcycle battery using a 1A fused cable (such as CB001).
15. With motorcycle outside, confirm flashing blue and green LEDs and check successfully reporting to the host application.