astra telematics

Application Note: Driver Identification using RFID

Overview

The AT100 can be integrated to Wavetrend's L-RX300 RFID Reader and L Series tags to provide information about the driver of a given vehicle for specific journeys. The benefits for the Fleet manager are significant in helping to fulfil their obligations under the EU Working Time Directive and Drivers Hours Directive.

Requirements	Part Number
• GPS/GPRS Vehicle Tracking Module*	AT100
• Combined GPS/GSM antenna	AE003
• Power Cable, 1.0m fused	CB001
• AT100 to L-RX300 Adapter Cable	CB006
• Wavetrend RFID Reader	L-RX300
• Wavetrend L-Series RFID Tag	L-TG501/L-TG700/L-TG1200

* firmware version 4.4 or later, hardware H2 or later

Hardware Configuration

The AT100 NMEA serial port is connected to the L-RX300 RFID reader using cable CB005. The L-RX300 requires power in the range of 6-9VDC, so a DC-DC converter (i.e. a 'dropper') is required for 12 or 24V vehicles. The necessary voltage converter is built into the CB005 cable. The usual requirements apply for antenna and power supply to the AT100.

Panic Button Feature

The L-TG700 keyfob style tag has a button which can be used for remote activation of panic mode. Whenever this button is pressed (on any tag in range with matching Site Code), the AT100 will send an immediate report with the Panic Mode bit set in the Reason Byte.

AT100 Configuration

First, the AT100 NMEA baud rate must be set to match the L-RX300 default baud rate of 57600. This can be done using the NMEA command:

$PARM,CONF,0021,57600

After entering this command, it will necessary to change the HyperTerminal baud rate to 57600 also.

The AT100 is enabled for RFID mode using the RFSC parameter (RFID Site Code). Setting the RFSC parameter to anything other than zero tells the AT100 to expect to see RF TAG information through the NMEA serial port. The Site Code is used to differentiate tags sold by Wavetrend to different customers. The AT100 will only recognise tags with a Site Code to match the value of RFSC. The Site Code should be specified when purchasing tags and should be the same for any given customer application.

The RFSC parameter can be set using a NMEA command, as per the example below:

$PARM,RFSC,12345 // example of setting RFSC to 12345

Once the RFSC value has been set, the AT100 will 'see' all tags which are in range (up to 20m) with a matching site code and will maintain a list of the 10 most recent tag IDs which are visible. Each time the AT100 reports to the host fleet management application, it will attach the ID number for the closest tag (based on received signal strength or RSSI) which is visible at that time.

Installation Guidelines

The AT100 NMEA serial port is connected to the DB9 female connector of the L-RX300 using the CB005 cable. The CB005 cable has an integrated power feed for the L-RX300. For guidance on RFID tag options, please contact Wavetrend (details below).

Recommended Suppliers

Wavetrend (UK) Limited
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