Digital & Analog Input / Output

Introduction

Inputs and outputs increase the functionality of a GPS device by allowing it to do such things such as unlock a door, enable/disable a vehicle's starter, remotely engage or disengage a motor, as well as monitor when some electric component is on or off.

You can connect various sensors, buttons and extra equipment which allow to acquire the telemetry data or even control vehicle mechanisms remotely. The most common examples are ACC state, emergency button, door sensor, fuel level sensor, mic and speaker, camera, etc. Let's take a closer look at the types of inputs, outputs and other interfaces used in vehicle GPS trackers.

Digital Input

Digital inputs are the simplest type of inputs. They can detect just two statuses: ON and OFF. With the digital inputs you can obtain just basic information about the state of connected equipment, to see if it is enabled or disabled.

Here are some common examples:
1. ACC / Ignition status
2. Door opening sensors
3. SOS button
4. AC
5. Seatbelt

Digital input can be positive or negative. If the input is positive, it detects the “ON” state, if it’s negative it allows to fix the “OFF” state.

Digital Output

An output wire on a GPS device, allows a signal to be sent from the device to an endpoint. Outputs can have two states: OFF and ON. You can control them remotely by sending SMS or GPRS commands. In some vehicle trackers there is the possibility to program a primitive on-board logic.

With outputs you can control various kind of external equipment, for example:

1. Engine
2. Head Light
3. Door
4. AC

Analog Input

Analog inputs differ from digital ones. In the analog signal the voltage level is used to represent the information – usually about the changes in physical phenomena, such as temperature, pressure, humidity or position of hydrometric float. In other words with analog inputs you can obtain more information from the connected equipment.

In fleet tracking analog inputs are often used for connecting:

1. Fuel level sensor
2. Temperature sensor
3. Humidity sensor
4. Tire pressure sensor

Thank You