

Figure 1 is a functional block diagram of the intelligent control system for the vehicle leveling system. The central component is the AFS ECU, which contains an MCU (Microcontroller Unit) and an internal regulator. The MCU is connected to an A/D (Analog-to-Digital) converter, a CPU, and an EEPROM. The internal regulator is connected to the MCU and provides a +5V_INT supply. The AFS ECU is also connected to a power protection circuit, which is connected to the vehicle's power supply (IGN1) and ground (GND). The power protection circuit provides a +5V_EXT supply to the external regulator. The external regulator is connected to the MCU and provides a +5V_EXT supply. The MCU is connected to a VLS (Vehicle Leveling Sensor) signal circuit, which provides F_VLS_SIG and R_VLS_SIG signals to the MCU. The MCU is also connected to a CAN transceiver, which is connected to the vehicle's CAN bus (C-CAN_HI and C-CAN_LO). The MCU is connected to a LIN transceiver, which is connected to the vehicle's LIN bus (LIN). The LIN bus is connected to the left and right headlights, which contain actuators (旋转执行器) and SLM (Smart Leveling Motor) components. The diagram also shows connections for vehicle level sensors (车辆水平传感器-后) and a CAN bus (C-CAN (从车辆)).