



CIT Board-Level Switches for the Automotive Industry

Electromechanical switches in board-level automotive applications are essential for controlling various electronic functions within a vehicle. These switches are typically mounted on printed circuit boards (PCBs) and are used to interact with microcontrollers, sensors, and other electronic components. Here are some of the primary uses:

Types and Uses of Electromechanical Switches in Board-Level Automotive Applications

1. **Tactile Switches:**

- **Purpose:** Provide a momentary contact when pressed, allowing user inputs.
- **Uses:**
 - **Dashboard Controls:** Used for buttons on the dashboard for functions like setting the odometer, resetting trip meters, and other user inputs.
 - **Steering Wheel Controls:** Enable buttons on the steering wheel for controlling audio, cruise control, and other functions.
 - **Infotainment Systems:** Operate buttons for controlling the multimedia interface, navigation, and other in-car entertainment functions.

2. **Push-Button Switches:**

- **Purpose:** Provide a simple on/off control for various functions.
- **Uses:**
 - **Engine Start/Stop:** Control the engine start/stop function with a push-button.
 - **Mode Selection:** Select driving modes (e.g., sport, eco) or other vehicle settings.
 - **Emergency Lights:** Activate hazard lights.

3. **Slide Switches:**

- **Purpose:** Provide a sliding mechanism to open or close a circuit.
- **Uses:**
 - **Seat Adjustments:** Control electronic seat adjustments.
 - **Window Controls:** Operate power windows (though this is more commonly done with tactile switches).
 - **Mode Switching:** Switch between different operational modes in various subsystems.

4. **Toggle Switches:**

- **Purpose:** Provide a manual on/off control with a lever.
- **Uses:**
 - **Lighting Controls:** Control auxiliary lighting systems, such as fog lights or additional off-road lights.
 - **Power Management:** Enable or disable power to certain systems or accessories.

5. **DIP Switches:**

- **Purpose:** Allow configuration settings to be set by manually changing the switch positions.
- **Uses:**



- **Configuration Settings:** Set configuration options for electronic modules during manufacturing or maintenance.
 - **Mode Selection:** Select different operational modes for diagnostic purposes.
6. **Snap-Action Switches:**
- **Purpose:** Also known as micro-switches; provide precise and reliable switching for small movements or positions.
 - **Uses:**
 - **Safety Interlocks:** Ensure that components like glove boxes or doors are properly closed before certain functions are enabled.
 - **Position Sensing:** Detect the position of moving parts, such as gear shifters or brake pedals.

Key Benefits of Using Electromechanical Switches in Board-Level Automotive Applications

1. **Reliability:** Electromechanical switches are known for their durability and reliable performance, essential in automotive environments.
2. **Precision:** Provide accurate control and feedback, important for user interfaces and safety-critical functions.
3. **Ease of Use:** Simple to operate and understand, making them suitable for various user interactions.
4. **Cost-Effectiveness:** Generally cost-effective solutions for basic on/off or momentary switching functions.
5. **Versatility:** Available in various forms and configurations, making them adaptable to numerous automotive applications.

CIT Switches used in board level applications in the automotive industry:

- [CL1200 Series](#)
- [CS1102 Series](#)
- [CS1102V Series](#)
- [CS1104 Series](#)
- [CS1204 Series](#)
- [CS1205 Series](#)
- [CS1210 Series](#)
- [CS1211 Series](#)
- [ME Series](#)
- [STJ Series](#)
- [STJV Series](#)
- [STR Series](#)
- [STS Series](#)
- [TJ Series](#)
- [DIP Switches](#)
- [Snap-Action Switches](#)

Electromechanical switches at the board level are crucial for facilitating user interaction with vehicle electronics, ensuring precise control, and maintaining reliable operation of various automotive systems.