SW-420 p

1. Sensor Functionality

- **Vibration Detection**:
    - The SW-420 contains a spring or metal conductor inside that moves when vibrations or shocks are present.
    - When movement occurs, the internal contacts close, producing a digital signal.
- **Digital Output**:
    - Outputs a **HIGH (1)** signal when vibrations exceed the set threshold.
    - Outputs a **LOW (0)** signal when no vibration is detected.

2. Sensitivity Adjustment

- The module includes a potentiometer to adjust its vibration sensitivity:
    - **High sensitivity**: Detects even small vibrations.
    - **Low sensitivity**: Detects only stronger vibrations.

3. Output Signal

- The module provides a digital output signal via the **DO** pin:
    - Can be directly connected to a microcontroller (e.g., Arduino, STM32) for real-time monitoring and response.

Internal Components

1. **Spring-Based Vibration Sensor**:
    - Functions as the core vibration detection element.
2. **Comparator Circuit**:
    - Compares the vibration signal to the threshold set by the potentiometer.
3. **Output Pins**:
    - **VCC**: Power supply (3.3V to 5V).
    - **GND**: Ground.
    - **DO**: Digital output signal.
4. **Potentiometer**:
    - Adjusts the sensitivity of the module.