

T-65-15

AD22150* – Monolithic Hall Effect Sensor with Signal Conditioning

FEATURES

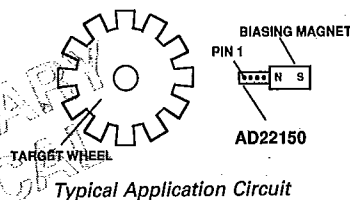
- Sensitive to Small Changes in Field: Operate and Release Points at -12 G and $+12\text{ G}$ Respectively
- Switch Points Moved in Presence of Large Dynamic Fields ($\pm 200\text{ G}$)
- Open Collector Output
- Open and Release Points
- Stable Over -40°C to $+150^{\circ}\text{C}$ Temperature Range
- Hysteresis Built into the Output
- Maximum Frequency 50 kHz
- Minimum Frequency User Selectable with One External Capacitor

The AD22150 is a monolithic Hall effect sensor complete with signal conditioning circuitry, which is sensitive to changes in magnetic field provided, for example, by teeth on a moving ferrous wheel.

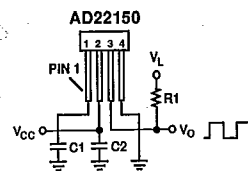
When used in a biasing magnetic field, the ac coupling rejects the steady state field to provide precisely controlled switch points, while hysteresis of the output ensures bounce free transitions between states.

*Patents pending.

The AD22150 is stable over a wide temperature range and has a broad frequency response. Its tolerance of assembly inaccuracies and its immunity to surface roughness combine to give a part ideal for use in diverse applications.



Typical Application Circuit



AD22150 Basic Connection Diagram

AD22180* – Automotive Battery Monitor Circuit

FEATURES

- Measures Automotive Battery Temperature & Voltage
- Built-In Battery Charging Characteristic
- Provides a Signal to Maximize the Battery Charging Without Exceeding the Battery Gassing Voltage at Any Given Temperature
- Signals "Charge Battery" for Battery Voltage Below the Battery Voltage Characteristics of the Figure: $13.35\text{ V @ }40^{\circ}\text{C}$ $+35\text{ mV}/^{\circ}\text{C}$ for Temperatures Below 40°C and $-11\text{ mV}/^{\circ}\text{C}$ Above 40°C
- TTL Compatible Open Collector Output
- Output Short Circuit Protected
- No External Components Required
- Powered Directly by Automobile Battery with Transient and Reverse Voltage Protection
- Operating Temperature Range -55°C to $+125^{\circ}\text{C}$

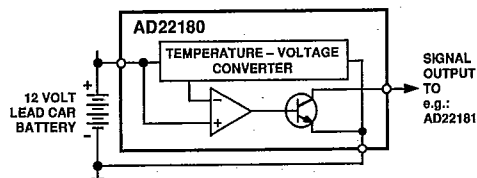
The AD22180 is a three-terminal, monolithic monitor circuit for 12 V, lead based, automotive batteries.

The basic function of this IC is to measure the battery voltage and temperature. The measured voltage and temperature will then be compared with the internal battery charging curve. This IC should be mounted in thermal contact with the battery case.

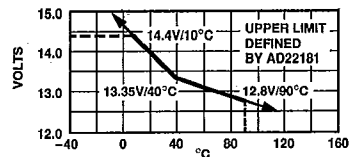
*Protected by U.S. Patent Re30,586; others pending.

The digital open collector output indicates when the battery can be further charged without damaging or reducing its lifetime (digital state: high), and when to stop charging (digital state: low).

The digital output of the AD22180 can be directly connected to the Alternator Controller Circuit AD22181.



Typical Application Circuit



Temperature-Voltage Characteristics

This information applies to a product under development. Its characteristics and specifications are subject to change without notice. Analog Devices assumes no obligation regarding future manufacture unless otherwise agreed to in writing.