5A Range AC Current Transformer Current Sensor Module

General Description:

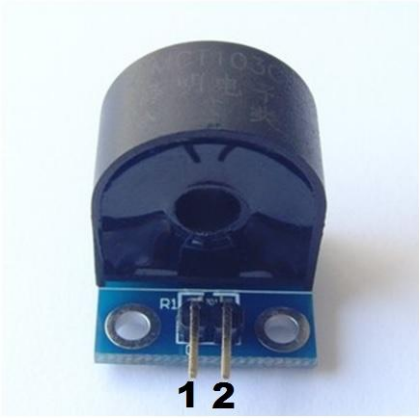
Current sensors operate as the sealed secondary of a current transformer while the conductor carrying the current to be measured functions as a one turns primary. Measurement accuracy can be improved by increasing the number of primary turns. Applications include detection of branch circuit overload and load drop or shutdown.

It is a line of fully integrated Hall-effect current sensor IC that provide highly accurate, low noise output voltage signals that are proportional to an applied AC or DC current. These ICs are in high volume production in many applications, including automotive HEV inverters and electronic power steering (EPS) systems, and in industrial and consumer inverters.

Current sensor ICs allow design engineers to use Hall-effect-based current sensor ICs in new applications where increased energy efficiency or new operating features are required.

Specifications:

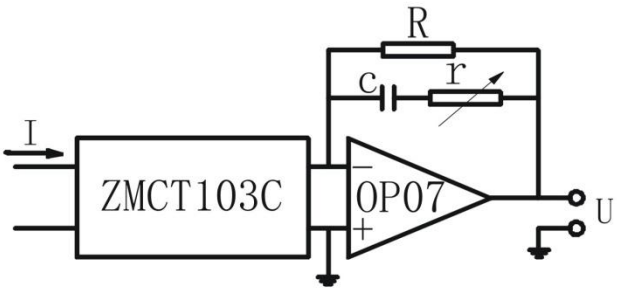
- Onboard precision micro current transformer.
- Onboard sampling resistor .
- Module can be measured within 5 a alternating current, the corresponding analog output 5 A/ 5 mA
- PCB board size: 18.3 (mm) x17 (mm).
- Rated Primary Current at 50/60 Hz: 5 A
- Maximum Primary Current at 50/60 Hz: 20 A
- Turns Ratio: Np:Ns = 1:2,500
- Current Ratio: 5A:2mA
- Winding D.C. Resistance at 20 °C: 155 Ω
- Accuracy • @RL≤10 Ω: 2%
- Operating Temperature: -40 to 85 °C
- Storage Temperature: -45 to 90 °C
- Dielectric Withstanding Voltage: 4,000 V / 1 mA / 1 sec

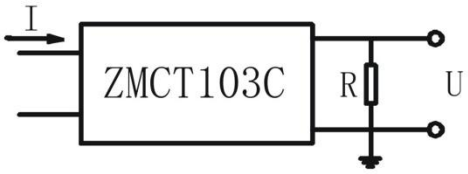


Pin Configuration:

1. Ground pin
2. Supply pin

Schematic Diagram:





$$U = \frac{I}{1000} \cdot R$$

I: input current
R: sampling resistor
U: sampling voltage