

## Detect Fault Current Before a Failure Occurs

There are quite a number of applications in industry where it is required or desired to monitor electrical heating elements for leakage to earth. Producing an output signal proportional to this current to earth is a way to monitor deteriorating insulation or direct shorts to ground.

The sensor produces a signal which can be read with a panel meter or a programmable logic controller. If the fault current exceeds an allowable level, a limit alarm contact in the meter or an output from the PLC can be used to control an audible or visual signal letting the equipment operator know a problem is imminent or a hard fault to earth has occurred.

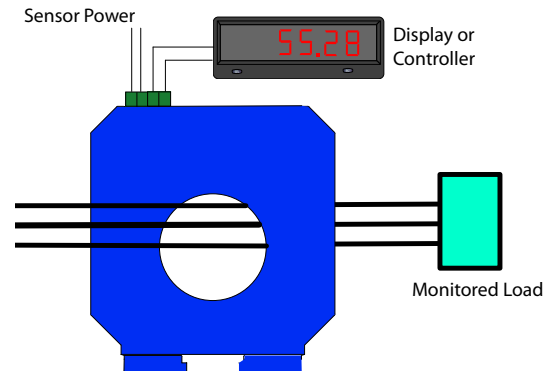
When a heating process should not be stopped until the process is completed, shutting of the power through a Ground Fault Circuit Interrupter is not an ideal approach. An example of this is annealing parts for an internal combustion engine. If the heating process is stopped before the parts are brought to the target temperature, they will not be properly hardened and must be scrapped. While letting the process complete is not as safe as disconnecting the offending circuit supply source power, it is certainly better and more cost effective than scrapping the parts.

With an analog sensor output, there can be two or more alarm points. For example, one alarm would trip if fault current exceeds 10 or 20 mA, another alarm point can be set to trigger when fault current exceeds 50 mA, so that more extensive action could be taken if a higher fault current is detected.

Additional applications include, monitoring electric heating processes, semiconductor wafer fabrication, AC motor loads, plastic molding processes, heat trace cable systems, and snow melt protection.



Monitor electric motors for leakage to earth in a pump station.



## AGT-FD SERIES Ground Fault Detection - Analog Output

The AGT-FD detects faults to earth from 0 mA to 100 mA and produces 0–10 VDC output in proportion to 0–100 mA. The sensing window is large enough to allow three or four wires carrying 100 amps or more to pass through the sensing window easily. The AGT-FD can also be used to measure and monitor any low value AC circuit current by passing just one of the conductors through the sensing window.

The unit is powered with 24 volts, AC or DC, and can be mounted on a back panel with screws or snapped onto a DIN rail. The power and output terminals are mounted to the top of the sensor using finger-safe for easy access.

