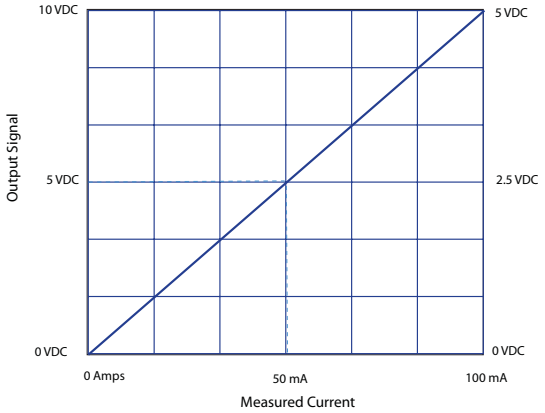
Specifications

Power Supply	24 VAC or DC (20-30 volts) Intended for use with Class 2 power supply
Power Consumption	<2VA
Input Range	AGT2: 0-100 mA (AC only)
Voltage Range	Up to 600 VAC (Monitored Circuit)
Frequency Range	50 or 60Hz (Monitored Circuit)
Output	0-5 VDC or 0-10 VDC
Accuracy	+/-1% FS
Response Time	250 ms 90% step change
Loading	>2K ohms
Dimensions	3.26”H x 3.00”W x 2.77”D, (83 X 76 X 71 mm), Aperture 1.31” (33mm) diameter
Case	UL 94V-0 Flammability Rated Use copper conductors only for control power and output signals
Environmental	-4 to 122 °F (-20 to 50 °C) 0-95% RH, Non Condensing
Listings	UL/cUL Listed E342812

Power Supply Notes

All low-current Ground-Fault Sensors are sensitive devices that require reasonable care in system design to avoid false indication caused by high electrical noise levels. Keep in mind that the best way to reduce noise in a system is to suppress it at its source.

1. Keep the sensor power isolated from noisy circuits.
2. Do not power the sensor with the same circuit that switches contactors or other high current, inductive loads.



System Grounding

AGT Series sensors are designed to work on grounded AC power systems. **They will not operate properly on ungrounded systems to detect faults to earth.**

Model Number Key

AGT2-010-24U-FD

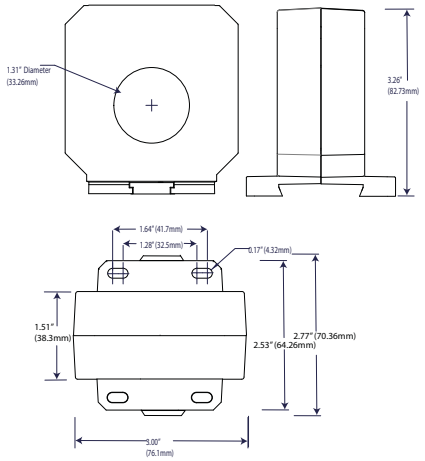
Housing
FD Solid Core, DIN rail or panel

Power Supply
24U 24 VAC or DC

Output Type
005 0-5 VDC proportional to AC current
010 0-10 VDC proportional to AC current

Input Range
2 0-100mA AC

AGT Series Residual Current Transducer



Know Your Power

Other NK Technologies Products Include:
AC & DC Current Transducers
AC & DC Current Operated Switches
1ϕ & 3ϕ Power Transducers
Current & Potential Transformers (CTs&PTs)

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NK Technologies

INSTRUCTIONS

AGT-FD SERIES

Residual Current Transducer
Analog Output

Quick “How To” Guide

1. **Run all current carrying conductors through sensor window**
2. **Mount the sensor to a panel or DIN rail.**
3. **Connect output & power wiring.**
   - A. Use 30-14 AWG copper wires rated 75/90°C, tighten to 5-7 in/lbs.
   - B. Make sure fault current levels match the output range shown on the sensors’ label.
     - 0-5 or 0-10 VDC sensor output.
     - Connect power supply to terminals 1-2 (not polarity sensitive)
   - C. Make sure power supply voltage is no lower than 20 and not greater than 30 volts at the sensor terminals.
   - D. The output (com-) must be isolated from the power supply inputs.

AGT-FD Transducer Inst. Rev 2, 02/19 P/N 292000079

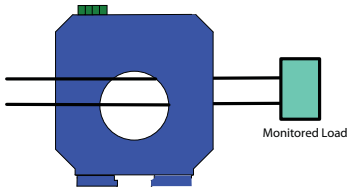
Description

AGT Series sensors monitor all current carrying wires in single or three phase systems to detect ground faults. They provide an analog output signal proportional to the sensed residual (earth fault) current. Used to operate a panel meter, PLC input or other system automation controller.

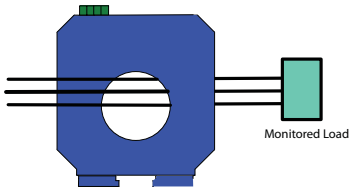
Principal of Operation

Under normal conditions, the current in one wire of a two wire load is equal in strength but opposite in sign to the current in the other wire. The two wires create magnetic fields that cancel, a condition known as "Zero Sum Current". If any current leaks to ground (Ground Fault), the two currents become unbalanced and there is a net resulting magnetic field. The AGT sensor detects this minute field and produces a signal representing the fault current magnitude. This concept extends to three phase systems such as 3 wire Delta and to 4 wire Wye.

Single Phase (Phase & Neutral or Phase to Phase)



3 Phase (Include neutral if the load uses neutral)



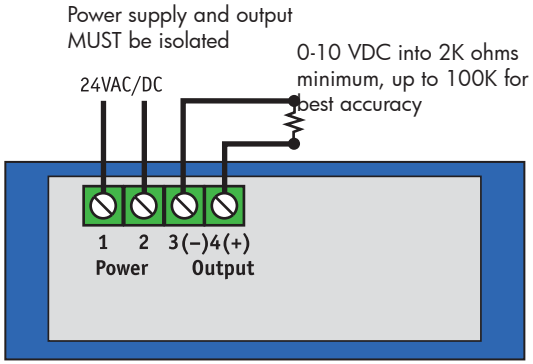
Note: Zero Sequence sensing will not work when monitoring ungrounded systems.

Installation & Wiring

AGT Series sensors work in the same environment as motors, contactors, heaters, pull-boxes, and other electrical enclosures. They can be mounted in any position or hung directly on wires with a wire tie. Just leave at least one inch distance between sensor and other magnetic devices.

Run all current carrying conductors through the sensor aperture in the same direction. (See "Principal of Operation)

Connect power wiring to the sensor. Be sure that the power supply matches the power rating on the sensor label. Use 30-14 AWG copper wire and tighten terminals to 5-7 inch-pounds torque.
Connect output wiring to the sensor. Use 30-14 AWG copper wire and tighten terminals to 5-7 inch-pounds torque.



Operation

The AGT sensor can be used to monitor residual (earth leakage) current by passing all of the current carrying conductors (not the ground wire) through the sensing aperture. Circuit voltage has no bearing on the sensor if the primary conductors are insulated to contain the primary circuit potential. The sensor output is capped at 5 or 10 VDC.

Transducer Adjustment

AGT Series sensors are factory calibrated and should never require field calibration adjustments.

Troubleshooting

1. Sensor has no output

A. Power supply is not properly sized. *Check voltage and current rating.*
B. Polarity is not properly matched. *Check and correct wiring polarity.*

2. Output signal is always at 0 VDC.

A. Monitored circuit is not AC, or there is zero leakage current. *Check to be sure that the monitored circuit is alternating current.*

3. Output signal is always 5 or10 VDC.

A. There is leakage current in the system over the sensor range. *Check wiring for insulation integrity. Remove any faults to earth.*
B. Not all current carrying conductors are passed through the sensor aperture. *All wires connected to the monitored load must pass through the sensing window, including the neutral if it is used, **but not the ground conductor**.*