

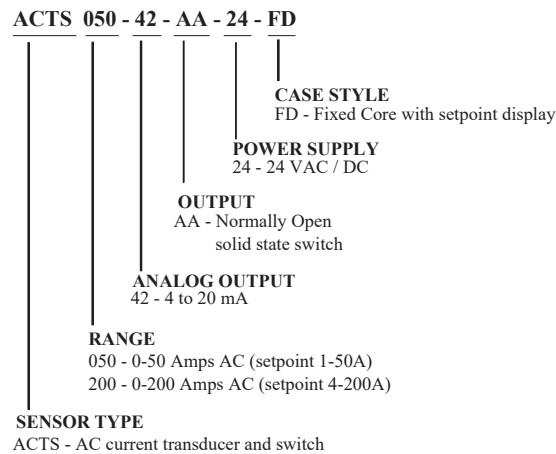
Specifications	
Power Required	24 VAC/DC (+/-10%)
Power Consumption	< 2VA
Outputs	Solid state switch, N.O. and analog output
Switch Rating	1A @ 240VAC maximum
Offstate Leakage	< 10µA
Switch Response Time	0.50 sec. 5% over set point 0.20 sec. 50% over set point 0.15 sec. 100% over set point
Switch Hysteresis	5% of setpoint
Switch Setpoint Range	1-50 Amps (ACTS050) 4-200 Amps (ACTS200)
Switch Setpoint Adjust	Single turn potentiometer Setpoint displayed on sensor
Sensed Current Limit	1.1x range continuous 3x range for 6 seconds 5x range for 1 second
Analog Output Signal	4-20mA
Analog Output Impedance	500Ω max
Analog Output Response	< 0.30 sec. 90% step change < 0.40 sec. 100% step change
Accuracy	+/-1%
Isolation Voltage	UL508, UL tested to 1480VAC
Frequency Range	40-400 Hz, Average Responding
Sensing Aperture	0.75 in (19mm) dia.
Environmental	-Temp -4 to 122°F (-20 to 50°C) -Humidity 0-95% RH, Non-condensing -Pollution degree 2 -Altitude 2000 meters
Case	UL 94V-0 Flammability rated thermoplastic
Certifications	cULus listed E222847 CE

For products intended for the EU market, the following is applicable to the CE compliance of the product:

The ACTS050/ACTS200 Series may comply with EN 61010-1 CAT III 300V max line-to-neutral measurement category. If insulated cable is used for the primary circuit, the voltage rating of the measurement category can be improved according to the characteristics given by the cable manufacturer.

Use 24V input power and fuse at 5 amps. Power source overvoltage category I as defined per EN 61010-1.

Part Number Key



Warning! Risk of hazardous voltage

When operating the device, certain parts may carry hazardous live voltage (e.g., primary conductor, secondary terminals). The device should not be put into service if the installation is not complete.



Warning! Risk of electric shock or personal injury

Safe operation can only be guaranteed if the device is used for the purpose for which it was designed and within the limits of the technical specifications. When this symbol is used, it means you should consult all documentation to understand the nature of potential hazards and the action required to avoid them.



ACTS050/ACTS200 SERIES INSTALLATION INSTRUCTIONS



Part No. ACTS050-42AA-24-FD

Quick Start Guide

1. Mount the sensor on a surface, if needed.
2. Run the wire to be monitored through the aperture.
3. Connect output wiring.
 - a. Use 30-12AWG copper wire rated 75°C min and tighten terminals to 7 in-lbs.
 - b. Ensure the power supply voltage matches the model you are installing.
 - c. Energize the power to the sensor.
4. Adjust setpoint.
 - a. LED will display the RMS value of AC current, which will cause the output to change state.
 - b. Turn the potentiometer until your target current value is displayed.
5. Analog signal output.
 - a. The analog output is powered from the sensor power source.
 - b. The signal is proportional to the sensor range selected.



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Description

The ACTS050 and ACTS200 are externally powered, current-operated switches with the addition of a 4-20mA analog output signal. The contact trips when sensed current level exceeds the adjusted setpoint. The normally open contact closes on current rise. The output resets when current falls 5% below the set point.

The switch point can be used by itself, or the analog signal can be used alone or both can be used together.

An LED display on the top of the sensor shows the value in amps where the switch will change. In addition, these sensors produce an analog signal of 4-20mA to be used as an input to a PLC, panel meter, data acquisition system, or similar.

Installation

ACTS050 and ACTS200 sensors can be located in the same environment as motors, contactors, heaters, pull-boxes, and other electrical enclosures. The sensor can be installed in any position using the screw holes in the mounting tabs, or hung directly on wires using a wire tie. Ensure at least one inch clearance exists between sensor and other magnetic devices.

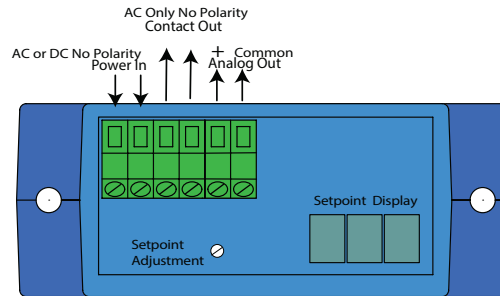
Run wire to be monitored through aperture (opening) in the sensor. The direction that the wire passes through the opening is not important.

Connect the output to the load to be switched, being sure that the load does not exceed the capacity of the output. The switch is solid state, and will be able to control any AC circuit from 2 to 240 VAC, and up to one amp.

Connect the power supply voltage to the appropriate terminals, being sure that the supplied power matches the sensor designed voltage. Energize the sensor power supply.

Initially, the LED display will show the range maximum. Set the desired set point by turning the potentiometer counter-clockwise. The display will show the amount of AC current needed to set the output. The normally open contact will close at this setpoint.

If used, connect a panel meter or controller input module to the analog output terminals of the sensor. The sensor output will produce a signal proportional to the AC current flowing in the monitored circuit with 4mA output with the monitored circuit 'off' and 20mA at monitored current range maximum.



Output Wiring

Connect control or monitoring wires to the sensor. Use 30-12AWG copper wire and tighten terminals to 7 in-lbs torque. Be sure the output load does not exceed the switch rating.



CAUTION: Incandescent lamps can have "Cold Filament Inrush" current of up to 10 times their rated amperage. Use caution when switching lamps on and off.

Setpoint Adjustment

The setpoint is adjusted using a single turn potentiometer. The LED three-digit display will show the amount of current needed to cause the outage to change state. The setpoint adjustment can be done before the monitored load is energized, improving the safety of the installation. The sensor must be powered to operate the display.

The adjustment is made by turning the screw clockwise to raise the setpoint counter clockwise to decrease the setpoint. The ACTS050 can be set to trip at any current level from 1 to 50 amps. The ACTS200 can be set to trip between 4 and 200 amps.

Analog Signal

The analog output is proportional to the full range of the sensor, either 0-50 or 0-200 amps AC. This signal is powered from the sensor power and no external (loop) power is needed. Once the sensor is powered with no primary AC current through the sensing window, the output will read 4mA. The output signal will rise as the current increases, up to 20mA. ACTS050 produces this signal at 50 amps; ACTS200 at 200 amps.

The zero and span calibration is done at the factory; no need to make any adjustments in the field.

The analog signal is average responding, with accuracy of +/-1% of scale when the current wave shape is sinusoidal. If the current wave shape is distorted by a variable frequency drive or an SCR heading control, an RMS responding device would be better suited and produce a signal with higher accuracy.

Troubleshooting

1. Sensor is always tripped.
 - A. The setpoint may be too low.
Turn the potentiometer clockwise to a higher setting.
 - B. Switch has been overloaded and output is burned out.
Check the output load, remembering to include inrush on inductive loads (coils, motors ballasts).
2. Sensor will not trip.
 - A. The setpoint may be too high.
Turn the potentiometer counter clockwise to a lower value.
 - B. Monitored current is below minimum required.
This sensor can be set to trip at a minimum of 1 amp (ACTS050) or 4 amps (ACTS200). Loop the conductor through the sensing window twice to reduce the trip point to 0.5 (or 2) amps.
 - C. Switch has been overloaded and output is burned out.
Check the output load, remembering to include inrush on inductive loads (coils, motors, ballasts).
 - D. Current is DC or of a lower frequency than 40 hertz.
The sensor can be used to monitor 40-400 hertz AC current only.
3. Sensor analog signal stays at 4mA (zero voltage).
 - A. The connection to the load (panel meter, PLC, etc) may be reversed.
Try reversing polarity.
 - B. The monitored load is not on.
Check to be sure there is voltage at the load terminals..
 - C. The monitored load is DC or the frequency is below 40 hertz.
The sensor can only be used to monitor AC current.
 - D. There is more than one phase through the aperture.
Thread only one current carrying conductor through the aperture, or multiple conductors connected to the same phase. Do not pass the grounding wire through the sensor. The neutral can be monitored if the load is single phase, but do not install both hot and neutral.