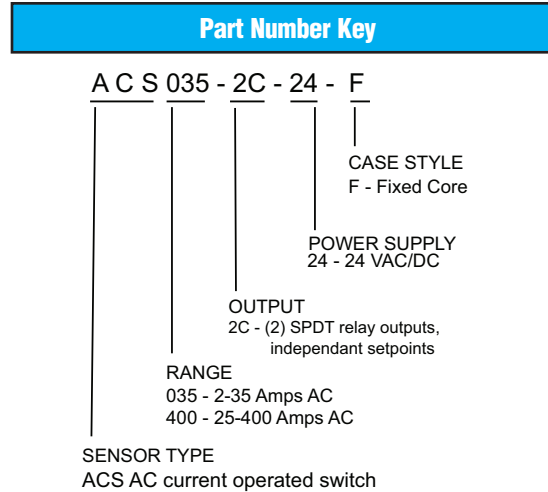


| Specifications | |
|-----------------------------|---|
| Power Supply | 24VAC/DC (+/- 8.3%) |
| Power Consumption | < 2VA |
| Output | (2) Independent Single Pole, Double Throw mechanical Relays |
| Contact Rating | 1A @ 120VAC, 2A @ 30VDC |
| Response Time | 40 - 120ms |
| Hysteresis | 4% of setpoint |
| Setpoint Ranges | 2-35 Amps (ACS035) 25-400 Amps (ACS400) |
| Setpoint Adjust | Two 3/4-turn potentiometers |
| Sensed Current Limit | 1.1x range continuous 3x range for 6 seconds 5x range for 1 second |
| Isolation Voltage | UL508, UL tested to 1240VAC |
| Frequency Range | 40-65 Hz |
| Sensing Aperture | 1.31 in (33.3 mm) 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 ACS035/ACS400 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.



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.



ACS035/ACS400 SERIES INSTALLATION INSTRUCTIONS



Part No. ACS035-2C-24-F

Quick Start Guide

1. Route monitored wire through aperture.
2. Mount the sensor to a DIN rail or panel.
3. Connect power supply and output wiring.
 - a. Use 30-12 AWG copper wire and tighten terminals to 7 in-lbs torque.
 - b. Ensure supply power and load matches that shown on sensor label.
4. Adjust setpoints.
 - a. Use trip adjust potentiometers to select setpoints.
 - b. LED shows Green with power supply connected, Amber when the current has exceeded the setpoint.



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Description

The ACS035 and ACS400 Series products are powered, current-operated switches which trigger when sensed current levels exceed the adjusted setpoint. There are two independent setpoints, one for higher than normal current and another for lower than normal, or one for alarm at too high and the second for shut down at an excessive current level. The two independent outputs are single pole, double throw relay contacts.

Installation

The ACS035 and ACS400 switches can be located in the same environment as motors, contactors, heaters, pull-boxes, and other electrical enclosures.

Mounting can be made in any position to a panel or a 35mm DIN rail, or hung directly on wires with a wire tie. Keep at least one inch clearance between sensor and other magnetic devices.

Wiring

Run wire to be monitored through aperture (opening) in the sensor.

For power supply and output wiring, use 30-12AWG copper wire and tighten terminals to 7 in-lbs torque. Be sure the output load requirement does not exceed the contact rating.

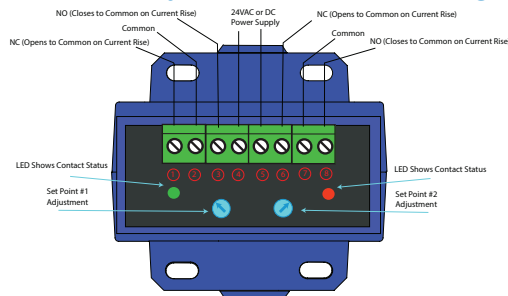
Connect power supply to terminals 4 and 5 on the sensor. Check to ensure supply power matches voltage and type required by sensor. Once powered, the LEDs on the unit should indicate unit is on by glowing green.

Connect output wiring to be controlled by Setpoint #1 to terminals 1-2 for the normally closed (opens on current rise) or 2-3 for the normally open (closes on current rise) contact.

Connect output wiring to be controlled by Setpoint #2 to terminals 6-7 for the normally closed (opens on current rise) or 7-8 for the normally open (closes on current rise) contact.

Note that if unit is powered and monitored conductor has current flow, the output contacts may change state depending on setpoint adjustment settings.

Power Supply and Output Wiring



Setpoint Adjustment

The ACS035 and ACS400 Series setpoints are adjusted using two 3/4-turn pots which have arrow indication of the selected value. The arrow points to the current magnitude which will cause the output relay(s) to energize or change state. Possible to control one DC circuit and one AC circuit.

Typical Adjustment

1. Turn the setpoint adjustment pot #1 to the point where you want the first relay to change state.
2. Turn the setpoint adjustment pot #2 to the point where you want the second relay to change state.
3. Thread the load conductor(s) through the sensing aperture. If multiple conductors are used to power the monitored load, each conductor must be connected to the same phase.
4. Energize the sensor with 24VAC/DC (+/-8.3%)
5. Both indicating LEDs will be illuminated Green.
6. After energizing the monitored load, if the current used is over the adjustment level of Setpoint #1 the LED will change to Amber to indicate that the output relay has changed state.
7. When the monitored current exceeds the level of Setpoint #2, that LED will also change from Green to Amber.
8. The most common use would be to adjust Setpoint #1 to be in the tripped condition during normal load operation, reverting to "normal" if current falls below that point; and to have Setpoint #2 adjusted so it is "untripped during normal operation, and change state in an over current condition.
9. The output contacts are floating, and can be wired in parallel (OR wiring) or in series (AND wiring) for a two wire over/under switch action. See Application Examples.

Troubleshooting

1. Sensor is always tripped.
 - A. The setpoints may be too low.

Turn pot Clockwise to increase setpoint.
 - B. Switch has been overloaded and contacts are burned out.

Check the output load, remembering to include inrush on inductive loads (coils, motors, ballasts)
2. Sensor will not trip.
 - A. The setpoints may be too high.

Turn pot Counter Clockwise to decrease setpoint.

Troubleshooting continued:

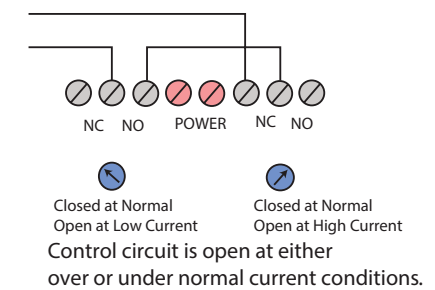
- B. Monitored current is below minimum required.

Loop the monitored wire several times through the aperture until the "sensed" current rises above minimum. Sensed Amps = (Actual Amps) x (Number of Loops). Count loops on the inside of the aperture.
 - C. Switch has been overloaded and contacts are burned out.

Check the output load, remembering to include inrush on inductive loads (coils, motors, ballasts).
3. LEDs do not illuminate.
 - A. Power supply is not energized.
 - B. Power supplied is not sufficient, 24VAC/DC (+/-8.3%).

Application Examples

Series Over/Under Current Window (AND wiring) Example



Parallel Connection Current Alarm (OR wiring) Example

