

APPLICATION NOTE

Compact and Reliable AC Current Detection - Solid-State Contact

There are many situations when it is beneficial to monitor a circuit energized from a remote location. For example:

- If a small cooling fan stops, the heat will rise quickly if trapped inside the enclosure. There is nothing more damaging to an electrically operated device than over heating.
- When a process uses electrical heat to cure coatings or sealants, loss of just one element will keep the bond from forming properly.
- The loss of one phase of a three phase load powering a motor can easily damage motor windings resulting in large blocks of lost production time while a seemingly insignificant motor is replaced. Seldom does the plant keep a replacement motor on hand unless management has seen this loss of production in the past and has taken measures to keep down time to a minimum.

When you need to know that a circuit is energized but you do not want to cut into the insulation or add burden to the monitored circuit, a current operated switch is the best solution. When the primary circuit draw is less than 50 amps, a small well-insulated device is just what is needed.

Monitoring AC Current

- Independent verification of load status
- Input to PLC, DDS or DCS
- Control up to 120 VAC using the same sensor
- Detect loads as low as 1/2 amp

AS1 Series Compact Case Current Sensing Switch

At NK Technologies we listen to our customers. They let us know they needed a sensor that would fit into cramped panel space. In response, our engineering team designed a sensor in the smallest package possible. The latest product NK Technologies has introduced in this small case is the AS1 Series Compact Case; a solid-state switch contact perfect for use as an input to a PLC or other controller.

The AS1 Series-CC has 24 inch long leads that can be connected directly to the controller input terminals or brought out to a terminal block. The contact can control either AC or DC circuits to 120 volts, with a maximum load capacity of 150 mA. There is close to zero off-state leakage providing positive indication of the presence of AC current, and the output can easily handle the coil of an industrial quality relay. The switch is available with our normally open (closes on current increase) or normally closed (opens on current increase) solid-state contact. With this product, NK Technologies has found a simple solution to our customers complicated control requirements.



The AS1 Series-Compact Case is only one inch in size, making current flow monitoring in tight spaces easy and cost-effective.