Why Use Solid State Switching Technology?

**Long Life**  • Solid state relays and contactors have no moving parts. Therefore, there is no mechanical wear and tear on the output contacts. The typical life expectancy of a solid state relay may be more than 50 times that of an electromechanical relay. Ideal for repetitive applications.

**Quiet Operation**  • Solid state switching solutions make no acoustical noise when the output contacts change states. This is highly desirable in many commercial and medical applications.

**Minimum Electrical Noise**  • Zero voltage turn-on and zero current turn-off allows for minimum electrical disturbances generated by SSRs.

**Low Power Consumption**  • Solid state relays and contactors require very little input power "coil current" to switch large loads. Crydom solid state relays can switch up to 150 A load current with less than 15 mA current draw from the control input.

**Shock & Vibration Resistant**  • Solid state switching solutions are not susceptible to erratic or unreliable operation when operating under tough environments.

**Ideal for Harsh Environments**  • SSRs & SSCs do not generate sparks or electric arcs, do not bounce either electrically or mechanically. Designed as pollution degree 2 devices per IEC 60664-1. Isolation levels up to 4kV. Magnetic fields have little effect on SSR.

**High Compatibility with Control Systems**  • DC controlled SSRs can be switched ON and OFF by digital systems such as PLC and µC based systems. AC controlled SSRs can be driven by limit switches, thermal switches and sensors carrying AC control signals.

**Fast Switching**  • Random turn-on solid state relays and contactors respond to a control signal in less than 100 µs. Phase control and Burst control can be easily achieved to provide accurate AC power control.

**Position Insensitive**  • Suitable for mounting in either vertical or horizontal position, "dead bug" position and adjacent mounting.

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**What is a Solid State Relay / Contactor?**

A Solid State Relay or Contactor (SSR or SSC) is an electronic component that switches Power (AC or DC current) to a load circuit and provides electrical isolation between an application’s control circuit and load circuit. It is a competitive technology to Electromechanical Relays (EMRs) and other switching technologies such as Mercury Displacement Relays (MDRs).
Although there are literally thousands of individual uses for Solid State Relays and Contactors, most can be categorized into the following applications:

### Heating Control
This encompasses the largest segment of solid state relay users. Applications include, but are not limited to: professional food equipment, plastic molding/extrusion machinery, HVAC&R and soldering equipment.

**Benefits:** Long life, no maintenance, safe product, easy to interface, as well as enabling temperature accuracy. Suitable for heater, fan, blower and valve control.

### Lighting Control
These applications are usually broken down into three categories: theatrical, warehouse and commercial. Many of the products used in this segment are custom designed.

**Benefits:** Dimming, silent operation, fast switching, long life, no maintenance, safe product, easy to interface, reduced parts count.

### Motion Control
Includes elevators, lifts, hoists, exercise equipment, conveyor systems, solar trackers, fans, solenoid and valve control.

**Benefits:** Endurance, shock & vibration resistance, Soft Start, reversing, no arcing, fast switching, long life, no maintenance, easy to interface, reduced parts count.

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