

# 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 contact, ideal for repetitive applications.



## Minimum Electrical Noise

Zero voltage turn-on and zero current turn-off allows for minimum electrical disturbances generated by solid state relays and contactors.



## Shock & Vibration Resistant

Solid state switching solutions are not susceptible to erratic or unreliable operation when operating under tough environments.



## High Compatibility with Control Systems

DC controlled SSRs can be switched by digital systems such as µC based systems. AC controlled SSRs can be driven by limit switches and sensors carrying AC control signals.



## Position Insensitive

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



## Magnetic Noise Immunity

Magnetic fields have little effect on solid state relays and contactors since, unlike electromechanical contactors, they don't use a magnetic coil to switch the load.



## Quiet Operation

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



## Low Power Consumption

Solid state relays and contactors require very little input power "coil current" to switch large loads.



## Ideal for Harsh Environments

Solid state relays and contactors do not generate sparks or electric arcs and do not bounce either electrically or mechanically.



## Reduced Weight

Solid state relays and contactors are much lighter than equivalent electromechanical versions; depending on the power can be up to 70%.



## Fast Switching

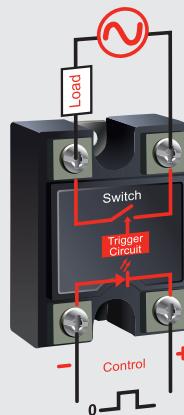
Instantaneous turn-on solid state relays and contactors respond to a control signal in less than 100 µs.



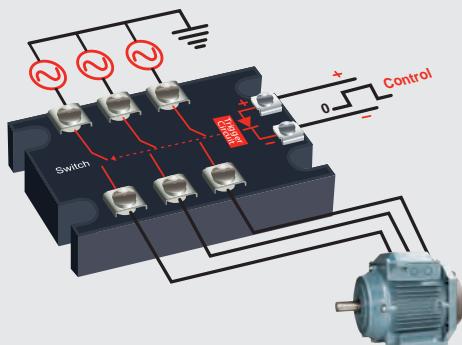
## Reduced Energy Cost

Energy savings are achieved from switching the load off when it is not required, using automation to ensure maximum system efficiency.

# 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).



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## Ratings by Mounting Type\*



### AC Output

	Single	690	660	660	280
Voltage (Volts)	Dual	660	600	280	
	3 Phase	530	600	280	
					
Current (Amps)	Single	150	65	40	5
	Dual	50	6	15	
	3 Phase	75	75	15	

### DC Output

Voltage (Volts)	1000	250	200	100
				
Current (Amps)	160	30	20	10

\*Sensata's maximum ratings per channel

## Solid State Relay Applications

There are literally thousands of individual uses for Solid State Relays. Most can be categorized into the following applications:



### Motion Control

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

### Heating Control

Applications include: professional food equipment, plastic molding/extrusion machinery, HVAC&R and soldering equipment.

### Power Control

Includes power supplies, transformers, regulators, inverters, converters, UPS systems, etc. as well as any load that is not specifically for heating, lighting or motion 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.