

# Solid State Relays

## *The New Solid State Applications Solution*

**Product Profile**

### Bulletin 700-S

Rockwell Automation has broadened its Allen-Bradley relay product line to include six new solid-state relays (SSRs). The solid-state relay logic input control levels are compatible with many industrial controllers available in today's market such as PLCs and temperature controllers. The switching design of the solid-state relay uses no moving parts or contacts that can wear out. This is one of the reasons they will perform in a variety of harsh environments.

### Long Life Expectancy

Solid-state relays use electronic instead of mechanical devices for load switching while providing a life cycle expectancy of approximately 100,000 energized hours or 11.4 years. This reduces product replacement and downtime.

### Low Maintenance

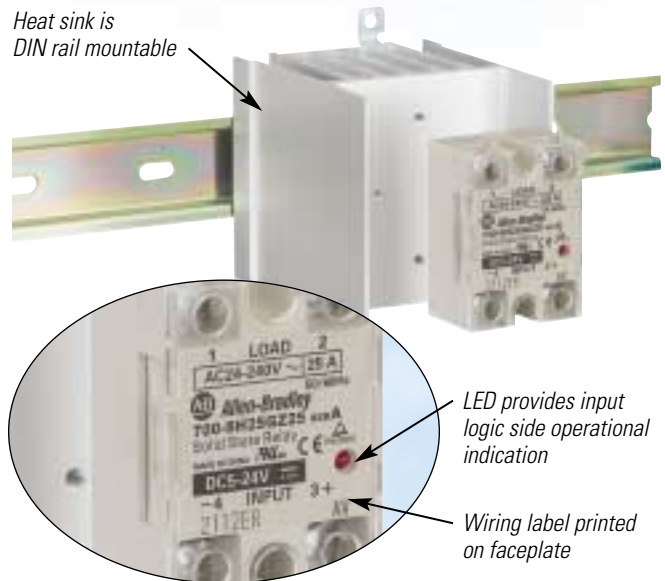
There are no moving parts or contacts to wear out or be affected by vibration and shock. Maintenance dollars, parts replacement, and downtime are reduced drastically, if not eliminated altogether.

### Reduced Power Costs

The solid-state relay typically requires 25 times less power than electromechanical relays and also generates less heat. This means the panel can typically be smaller, reducing panel space requirements.

### Flexibility

Plug-in style SSRs (700-SA, SC, SF and SK) are compatible with Allen-Bradley 700-HN sockets and retainer clips. In addition, the 700-SA SSR is compatible with the 700-HT1 multi-function, multi-range timer module while the 700-SC SSR is compatible with the new 700-AT1 or 700-AT2 timer modules. The flexibility and compatibility with these relay accessories support a wide range of applications, while reducing spare parts inventories.



Specification Overview								
Single-phase Solid State Relay Output								
Bulletin Number	700-SE	700-SH	700-SC		700-SF		700-SA	
Style	Flat Pack	Hockey Puck	Miniature Ice Cube Socketed		Square Base Socketed		Tube Base Socketed	
Key Features	Panel/DIN mount, Low profile zero-cross AC switching option	Panel/DIN mount, High Current, protective cover, LED status, zero-cross AC switching options	Compatible with 700-HN103, 104 or 128 socket, 700-AT1 or AT2 Timer, LED status and zero-cross AC switching options		Compatible with 700-HN116 socket, LED status zero-cross AC switching		Compatible with 700-HN100, 125, 202 and 108 socket, LED status, zero-cross switching	
Load Type	AC	AC	AC	DC	AC	DC	AC	DC
Load Voltage Range	75 ... 264V AC	24 ... 240V AC, 200 ... 480V AC	75 ... 264V AC	3 ... 52.8V DC, 3 ... 125V DC	75 ... 264V AC	3 ... 52.8V DC	75 ... 264V AC	3 ... 125V DC
Load Current Maximum	20 A	40 A	3 A	3A @ 48V, 2 A @ 110 V	3 A	3 A	5 A	3 A
Maximum Leakage Current	5 mA @ 100V, 10 mA @ 200V	5 mA @ 100V, 10 mA @ 200V, 20 mA @ 400V	5 mA @ 100V AC, 10 mA @ 200V AC	5 mA @ 50V DC, 0.1mA @ 100V DC	5 mA @ 100V AC, 10 mA @ 200V AC	5 mA @ 50V DC	5 mA @ 100V, 10 mA @ 200V	5 mA @ 125V
Control (input) Voltage Range	5, 12 or 24V DC	5 ... 4V DC, 100/110V AC, 200/220V AC	5 ... 24V DC, 100/110V AC, 200/220V AC	4 ... 24V DC	4 ... 24V DC	5 ... 24V DC	5 ... 24V DC	5 ... 24V DC
LED Indicator	No	Yes	Yes (option)	Yes (option) for 48V DC	Yes	Yes	Yes	Yes
Zero Cross Switching	Yes (option)	Yes	Yes (option)	N/A	Yes (option)	N/A	Yes	N/A
Mounting Method	Panel without heat sink, Panel or DIN with heat sink	Panel without heat sink, Panel or DIN with heat sink	Panel or DIN with socket		Panel or DIN with socket		Panel or DIN with socket	
Electrical Ratings								
Dielectric Strength	2000V AC 50/60Hz 1 min.	2500V AC 50/60Hz 1 min.	1500V AC 50/60Hz 1 min.		1500V AC 50/60Hz 1 min.		1500V AC 50/60Hz 1 min.	
Certifications	cURus, CE, TUV	cURus, CE ①, TUV	cURus, CE, VDE		cURus, CE, VDE		cURus, CE, VDE	
Max Ambient Temperature	-30 ... 80C	-30 ... 80C	-30 ... 80C		-30 ... 80C		-30 ... 80C	

SSR Output or SSR/Sensor Input				
Bulletin Number	700-SK 0 or I			
Style	Slim Line Socketed			
Key Features	Compatible with 700-HN121 socket. Supports Input (sensor) module or Output (SSR) module			
Load Type	AC	DC	AC	DC
	Output (SSR) Module		Input (Sensor) Module	
Load Voltage Range	75 ... 264V AC	4 ... 60V DC, 40 ... 200V AC	Field Input: 60 ... 264V AC	Field Input: 6 ... 32V DC
Load Current	2 A	2 A @ 60V, 1.5 A @ 200V	Supply Current: 0.1 ... 100 mA	Supply Current 0.1 ... 00 mA
Maximum Leakage Current	1.5 mA	1 mA	5u A	5u A
Control (input) Voltage Range	5 ... 24V DC	5 ... 24V DC	5 ... 24V DC	5 ... 24V DC
LED Indicator	Yes	Yes	Yes	Yes
Zero Cross Switching	Yes (option)	N/A	No	N/A
Mounting Method	Panel or DIN with socket			
Electrical Ratings				
Dielectric Strength	4000V AC 50/60Hz 1 min.			
Certifications	cURus, CE, TUV			
Max Ambient Temperature	-30 to 80C			

① 200 ... 480V AC load voltage range versions not CE

[www.rockwellautomation.com](http://www.rockwellautomation.com)

#### Corporate Headquarters

Rockwell Automation, 777 East Wisconsin Avenue, Suite 1400, Milwaukee, WI, 53202-5302 USA, Tel: (1) 414.212.5200, Fax: (1) 414.212.5201

#### Headquarters for Allen-Bradley Products, Rockwell Software Products and Global Manufacturing Solutions

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation SA/NV, Vorstlaan/Boulevard du Souverain 36, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, 27/F Citicorp Centre, 18 Whitfield Road, Causeway Bay, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846