# MINCO AC744 (10 AMP), AC745 (25 AMP), AC746 (50 AMP) SOLID STATE RELAY

### Installation Instructions

When using an SSR, it is essential that you remove heat from it. Whether mounting an SSR to a heatsink or an aluminum or steel plate (for example, a control cabinet), a thermal transfer medium should be used between the relay's base plate and the surface. Packaged with the SSR you will find a thermal pad (a piece of white-coated aluminum foil) the size and shape of the base plate of the SSR. This foil insert replaces the thermal grease commonly used and is easier to use. If the thermal pad is damaged, normal thermal grease may be substituted.

Make sure that the AC power is turned off. Using the SSR's hardware, screw it tightly to the mounting surface (e.g. a heatsink or a metal plate) as shown in Figure 1. If the SSR is mounted to the AC743 heatsink, then mount the heatsink to the mounting surface as shown in Figure 1.

Note: The heatsink should be mounted so the fins are vertical allowing natural convection to help remove heat from the heatsink/SSR. If the heatsink is mounted with the fins horizontal the relay can carry only 80% of its rated maximum current.



Figure 1 - Assembly of SSR to Heatsink



# **Electrical Specifications**

Specifications subject to change without notice

Final two digits of the CSD number indicate maximum current rating in amperes.

	AC744	AC745	AC746	
Output Characteristics:	CSD2410	CSD2425	CSD2450	UNITS
Operating Voltage Range, 47-63 Hz	24 - 280		V rms	
Max. Load Current	10	25	50	A rms
Min. Load Current	0.1		A rms	
Transient Overvoltage (Non-Repetitive)	600		V peak	
Max. Surge Current (Non-Repetitive) 16.6 ms	120	250	500	A peak
Max. Over Current (Non-Repetitive) 1 sec.	22	40	80	A rms
Max. On-State Voltage Drop (100mA-I <sub>RATED</sub> )	1.6		V peak	
Max. I <sup>2</sup> T for fusing (8.3 ms)	60	260	1040	A <sup>2</sup> sec.
Thermal Resistance Rejc (Tjmax = 115°C)	1.5	1.0	0.63	°C/W
Power Dissipation @ Max. Current	12	29	55	Watts
Max. Zero Voltage Turn-On	45		V peak	
Max. Peak Repetitive Turn-on Voltage	10		V peak	
Max. Off-State Leakage Current @ Rated Voltage		1.0		mA rms
Min. Off-State dv/dt (static) @ Max. Rated Voltage, 25°C	200		V/μs	

#### Input Characteristics:

Control Voltage Range		3.5 - 15	Vdc
Max. Reverse Voltage		3.0	Vdc
Max. Turn-on Voltage		3.5	Vdc
Min. Turn-off Voltage		0.8	Vdc
Min. Input Impedance		330	ohms
Max. Input Current	@ 5 Vdc	13	mAdc
	@ 15 Vdc	45	mAdc
Max. Turn-on Time(@ 60 Hz)		8.3	msec
Max. Turn-off Time (@ 60 Hz)		8.3	msec

#### **General Characteristics:**

Dielectric Strength 50 - 60 Hz	Input to Output	4000	V rms
	Input and Output to Case	4000	V rms
Insulation Resistance @ 500 Vdc (for 1 minute)		10 <sup>10</sup>	ohms
Max. Capacitance Input/Output	3.0	pf	
Ambient Temperature Range	Operating	-30 to 80	°C
	Storage	-40 to 120	°C

Electrical Specifications: (-30°C  $\,\leq\,$  TA  $\,\leq\,$  80°C) unless otherwise stated

## **Mechanical Specifications**

Weight	4 oz. max.	
Case Material	Fire retardant	
Encapsulant	Thermally conductive epoxy	
Case Color	Black	
Base Plate	Aluminum, nickel plate	
Terminals	Tin-plated brass, nickel plated screws & saddle clamps supplied unmounted	

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# **SSR Pinout and Wiring**



