

# Solid State Relays Industrial, 1- Phase ZS For HVAC applications

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- AC Solid State Relay
- Zero switching
- Direct copper bonding technology
- Rated operational current: 30 and 40 AACrms
- Rated operational voltage: up to 400V
- Input range: 10 to 90 VAC/DC
- Insulation: OPTO (input-output) 4000 VACrms
- Comes mounted on plate for insertion into standard electrical boxes

## Product Description

The zero switching relay with antiparallel thyristor output is the most widely used industrial SSR due to its multiple application possibilities. The relay can be used for resistive, inductive, and capacitive loads. The zero switching relay switches ON when the sine curve just crosses zero and switches OFF when the current crosses zero.

## Ordering Key RA4450LA08 30A HS03K

Solid State Relay

30 AMP

Built-in Heatsink

## Type Selection

Switching mode	Rated Operational Voltage	Rated Operational Current	Control Voltage	Non-rep. Voltage
A: Zero switching Optional	44:400 VACrms	Depends on heatsink. See below	LA: 10to 90VAC/DC	08:850 Vp

## Selection Guide

Rated operational Voltage	Non-rep. voltage	Control Voltage	Rated operational current 30 AMP	40 AMP
400 VACrms	850 Vp	10 to 90 VAC/DC	RA 4450 LA0830AHS03K	RA 4450 LA0840AHS04K

## General Specifications

Operational voltage range	42 to 480 VACrms
Non-rep. peak voltage	850 Vp
Zero voltage turn-on	≤ 40 V
Operational frequency range	45 to 65 Hz
Power factor	≥ 0.5 @400 VACrms
Approvals	UL, CSA

## Input Specifications

	RA .. LA..
Control voltage range	10 to 90 VAC/DC
Pick-up voltage	≤ 10 VAC/DC
Drop-out voltage	≥ 1 VAC/DC
Reverse voltage	
Input impedance	5.4k
Response time pick-up	
RA	≤ 1 cycle
RB	≤ 1 ms
Control pulse width	≥ 0.5 ms
Response time drop-out	≤ 1/2 cycle

## Output Specifications

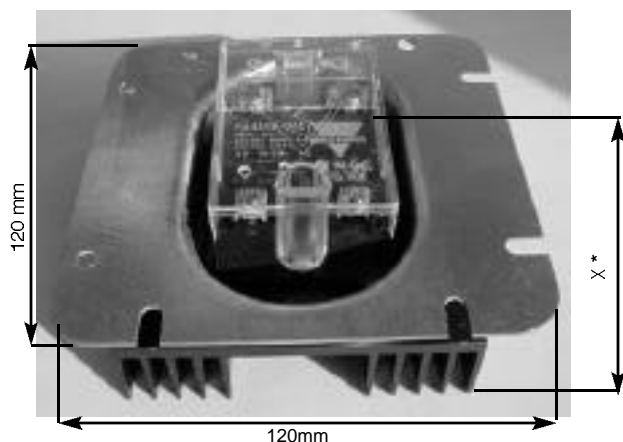
	30 AMP version	40 AMP version
Rated operational current AC1	30 Arms	40 Arms
AC3	15 Arms	15 Arms
Minimum operational current	20 mArms	20 mArms
Rep. overload current $t=1$ s	125 Arms	125 Arms
Non-rep. surge current $t=20$ ms	600 A <sub>p</sub>	600 A <sub>p</sub>
Off-state leakage current		
@ rated voltage, frequency	3 mArms	3 mArms
1 <sup>st</sup> for fusing $t=1-10$ ms	1800 A <sup>2</sup> s	1800 A <sup>2</sup> s
Critical di/dt	100 A/μs	100 A/μs
On-state voltage drop		
@ rated current	1.6 Vrms	1.6 Vrms
Critical dV/dt commutating	500 V/μs	500 V/μs
Critical dV/dt off-state	500 V/μs	500 V/μs

## Thermal Specifications

Operating Temperature

-40 - +50°C

## Dimensions



\*30 AMP Version - 65mm

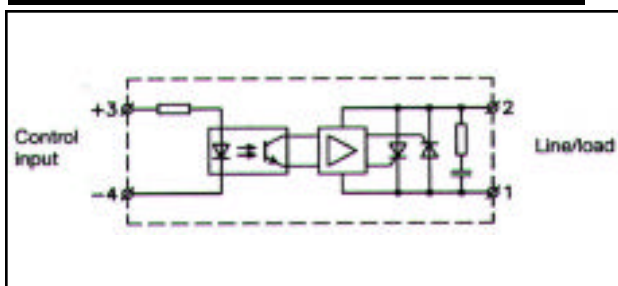
\*40 AMP Version - 78mm

Relay must be mounted with the heatsink fins vertical.

## Insulation

Rated insulation voltage	
input to output	4000 VACrms
Rated insulation voltage	
output to case	4000 VACrms
Insulation resistance	
input to output	10 <sup>10</sup>
Insulation resistance	
output to case	10 <sup>10</sup>
Insulation capacitance	
Input to output	8 pF
Insulation capacitance	
output to case	100 pF

## Wiring Diagram



## Functional Diagram

