

AD Series Class 8 Solid State Relays



AD-SSR810-AC-28Z
shown

The Class 8 solid state relays offer energy efficient current switching in a slim housing ideal for space-saving applications.

Switching types include Zero Cross for resistive AC loads where the output energizes/de-energizes when control voltage nears zero, and Random for AC loads where the output switches instantaneously with the actual voltage.

All Class 8 solid state relays use an SCR, which is suited for AC load applications, as the switching device .

Features

- Internal heat sink
- Finger-safe terminals
- DIN and panel mounting
- Optically coupled circuit

Class 8 Solid State Relay Selection Guide							
Part Number	Price	Type	Input Voltage	Load Voltage	Configuration	Contact Rating	
AD-SSR810-AC-28Z	<-->	N.O. SCR	90 to 280 VAC	24 to 280 VAC	SPST	10A	
AD-SSR810-AC-28R	<-->						
AD-SSR810-DC-28Z	<-->		3 to 32 VDC				
AD-SSR810-DC-28R	<-->						
AD-SSR810-DC-28RN	<-->	N.C. SCR	3 to 32 VDC				
AD-SSR810-AC-48Z	<-->	N.O. SCR	90 to 280 VAC	48 to 480 VAC			
AD-SSR810-AC-48R	<-->						
AD-SSR810-DC-48Z	<-->		3 to 32 VDC				
AD-SSR810-DC-48R	<-->						
AD-SSR810-AC-60Z	<-->		90 to 280 VAC				48 to 600 VAC
AD-SSR810-AC-60R	<-->						
AD-SSR810-DC-60Z	<-->	3 to 32 VDC					
AD-SSR810-DC-60R	<-->						



Company Information

Systems Overview

Programmable Controllers

Field I/O

Software

C-more & other HMI

Drives

Soft Starters

Motors & Gearbox

Steppers/ Servos

Motor Controls

Proximity Sensors

Photo Sensors

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Encoders

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Appendix

Product Index

Part #

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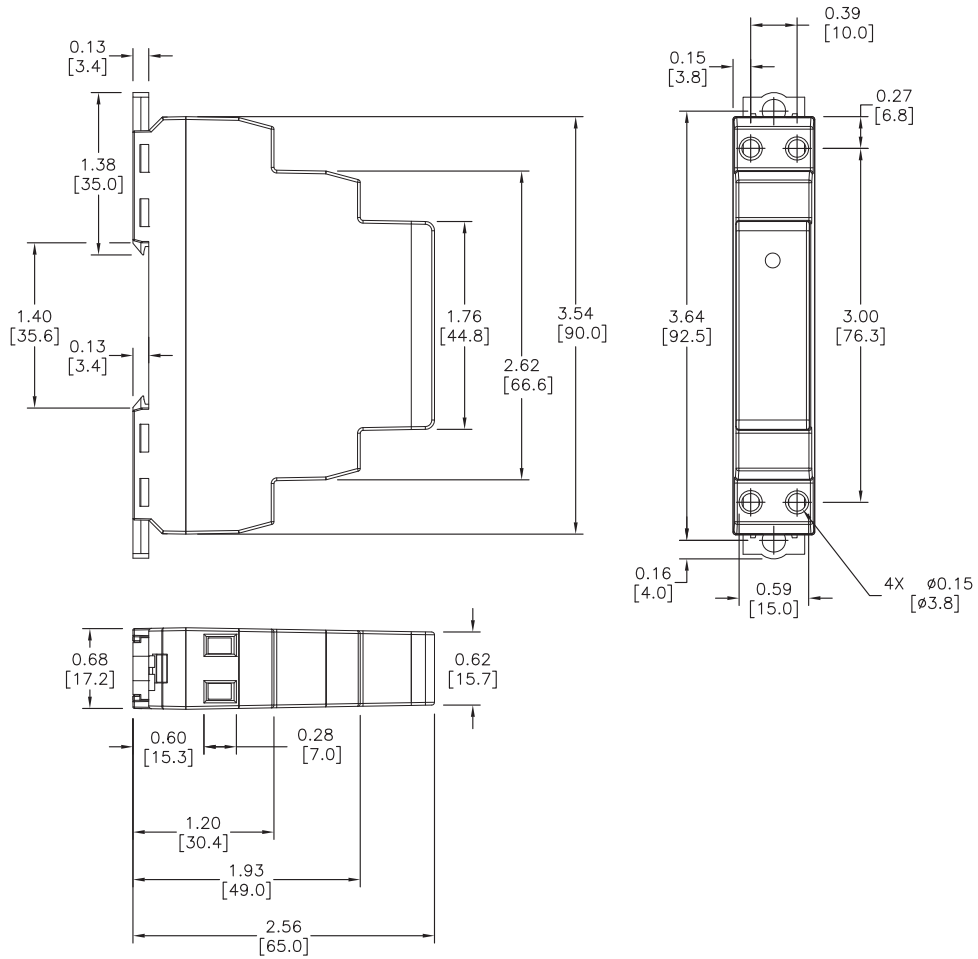
AD Series Class 8 Solid State Relays

Specifications																
Part Number	AD-SSR810-AC-28Z	AD-SSR810-AC-28R	AD-SSR810-DC-28Z	AD-SSR810-DC-28R	AD-SSR810-DC-28RN	AD-SSR810-AC-48Z	AD-SSR810-AC-48R	AD-SSR810-DC-48Z	AD-SSR810-DC-48R	AD-SSR810-AC-60Z	AD-SSR810-AC-60R	AD-SSR810-DC-60Z	AD-SSR810-DC-60R			
Input Characteristics																
Control Voltage Range	90 to 280 VAC			3 to 32 VDC			90 to 280 VAC			3 to 32 VDC			90 to 280 VAC		3 to 32 VDC	
Typical Input Current	12 mA			16 mA			12 mA			16 mA			12 mA		16 mA	
Must Release Voltage	10 VAC			1 VDC			10 VAC			1 VDC			10 VAC		1 VDC	
Reverse Polarity Protection	-			Yes			-			Yes			-		Yes	
Switching Type	Zero Cross	Random	Zero Cross	Random	Random	Zero Cross	Random	Zero Cross	Random	Zero Cross	Random	Zero Cross	Random			
Input Indicator	Green LED status lamp															
Output Characteristics																
Load Voltage Range	24 to 280 VAC				48 to 480 VAC				48 to 600 VAC							
Rated Load Current	10 A															
Maximum Off-State Voltage dv/dt	500 V/μs				200 V/μs		350 V/μs									
Minimum Load Current	50 mA															
Non-Repetitive Surge Current (1 Cycle)	500 A															
Maximum Off State Leakage current (RMS)	10 mA															
Typical On-State Voltage Drop (RMS)	1.25 VAC															
Maximum I²T for Fusing (A²Sec)	1250				850				600							
RMS Overload Current/Sec	24A															
Contact Configuration	SPST N.O.				SPST N.C.		SPST N.O.									
Maximum Turn-On Time	40 ms		8.3 ms			40 ms		8.3 ms		40 ms		8.3 ms				
Maximum Turn-Off Time	80 ms		8.3 ms			80 ms		8.3 ms		80 ms		8.3 ms				
General Characteristics																
Dielectric Strength (Terminal to Chassis)	2500 VAC															
Thermal Resistance (Junction to Case)	0.66°C/W (33.19°F/W)															
Internal Heat Sink	4°C/W (39.2°F/W)															
Operating Temperature Range	-30°C to 80°C (-22°F to 176°F)															
Storage Temperature Range	-40°C to 100°C (-40°F to 212°F)															
Weight	127 g (4.1 oz)															
Terminal Torque	7.1 lb-in (0.8 Nm) max															
Terminal Wire Capacity	14 AWG (2.5mm ²) max															
Agency Approvals and Standards	UL file # E222847, CE, CSA, RoHS															
Environmental Protection	IP20															

AD Series Class 8 Solid State Relays Dimensions & Derating Charts

Dimensions

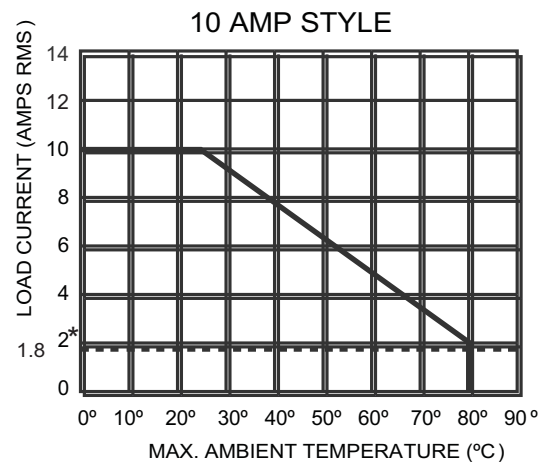
inches [mm]



Wiring Diagram



Derating Chart



* Indicates current cut-off.

Note: A minimum spacing of 17.5 mm (0.7 in) between adjacent 861 relays is required in order to achieve the maximum ratings. A 0mm spacing will result in a 50% reduction in the de-rating.

AD Series Class 8 Solid State Relays for Hazardous Locations

The Class 8 Hazardous Location series is similar to the Class 8 series with the added feature of being approved for hazardous locations (Class 1, Div. 2, Groups A, B, C, D).

Switching types include DC switching for DC loads and Zero Cross for resistive AC loads where the output energizes/de-energizes when the control voltage nears zero.

Switching devices include MOSFET for DC loads and SCR for AC loads.

Features

- For use in hazardous locations (Class I, Div 2, Groups A, B, C, D)
- Internal Heat Sink
- Finger-safe terminals
- DIN and panel mounting
- Optically coupled circuit



AD-HSSR808-DC-15 shown

Class 8 Hermetically-sealed Solid State Relay Selection Guide						
Part Number	Price	Type	Input Voltage	Load Voltage	Configuration	Contact Rating
AD-HSSR815-DC-05	<-->	N.O. MOSFET	3.5 to 32 VDC	3 to 50 VDC	SPST	15A
AD-HSSR808-DC-15	<-->			3 to 150 VDC		8A
AD-HSSR810-AC-28	<-->	N.O. SCR	90 to 280 VAC	24 to 280 VAC		10A
AD-HSSR810-DC-28	<-->		3 to 32 VDC			
AD-HSSR810-AC-48	<-->		90 to 280 VAC	48 to 480 VAC		
AD-HSSR810-DC-48	<-->		3 to 32 VDC			
AD-HSSR810-AC-60	<-->		90 to 280 VAC	48 to 600 VAC		
AD-HSSR810-DC-60	<-->		3 to 32 VDC			

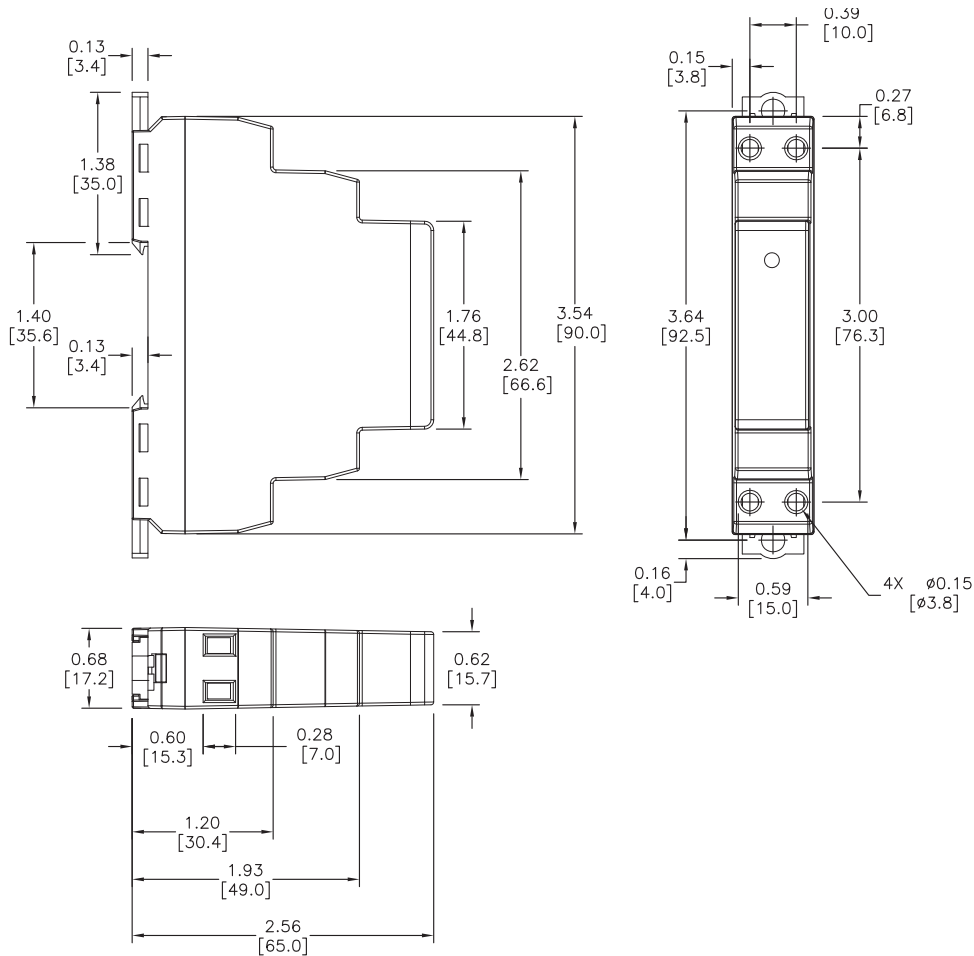
AD Series Class 8 Solid State Relays for Hazardous Locations

Specifications								
Part Number	AD-HSSR815-DC-05	AD-HSSR808-DC-15	AD-HSSR810-AC-28	AD-HSSR810-DC-28	AD-HSSR810-AC-48	AD-HSSR810-DC-48	AD-HSSR810-AC-60	AD-HSSR810-DC-60
Input Characteristics								
Control Voltage Range	3.5 to 32 VDC	90 to 280 VAC	3 to 32 VDC	90 to 280 VAC	3 to 32 VDC	90 to 280 VAC	3 to 32 VDC	90 to 280 VAC
Typical Input Current	12 mA	12 mA	16 mA	16 mA	12 mA	16 mA	12 mA	16 mA
Must Release Voltage	1 VDC	10 VAC	1 VDC	10 VAC	1 VDC	10 VAC	1 VDC	10 VAC
Reverse Polarity Protection	Yes	—	Yes	—	Yes	—	Yes	—
Nominal Input Impedance	Current Regulator	16 to 25k Ω	Current Regulator	16 to 25k Ω	Current Regulator	16 to 25k Ω	Current Regulator	Current Regulator
Switching Type	DC	Zero Cross						
Input Indicator	Green LED status lamp							
Output Characteristics								
Load Voltage Range	3 to 50 VDC	3 to 150 VDC	24 to 280 VAC	48 to 480 VAC	48 to 600 VAC			
Rated Load Current	15 A	8 A	10 A					
Maximum Off-State Voltage dv/dt	—	—	500 V/ μ s	350 V/ μ s	500 V/ μ s			
Minimum Load Current	20 mA		50 mA					
Non-Repetitive Surge Current (1 Cycle)	50 A	35 A	500 A					
Maximum Off State Leakage current (RMS)	0.25 mA		10 mA					
Typical On-State Voltage Drop (RMS)	N/A		1.25 VAC					
Maximum I²T for Fusing (A²Sec)	—	—	1250	850	600			
RMS Overload Current/Sec	24 A	17 A	24 A					
Maximum Turn-On Time	5 ms		8.3 ms					
Maximum Turn-Off Time	5 ms		8.3 ms					
General Characteristics								
Dielectric Strength Terminals to Chassis	2500 V rms							
Thermal Resistance Junction to Case	1.4°C/W (34.52°F/W)	0.5°C/W (32.9°F/W)	0.66°C/W (33.19°F/W)					
Internal Heat Sink	4.0°C/W (39.2°F/W)							
Operating Temperature Range	-30 to 80°C (-22 to 176°F) (derating applies)							
Storage Temperature Range	-40 to 100°C (-40 to 212°F)							
Weight	127.1 g (4.1 oz)							
Terminal Torque	7.1 in-lb (0.8 Nm) maximum							
Terminal Wire Capacity	14 AWG (2.5mm ²) max							
Agency Approvals and Standards	UL file # E344125, CE, RoHS							
Environmental Protections	IP20 (Class I, Div. 2 Groups A, B, C, D)							

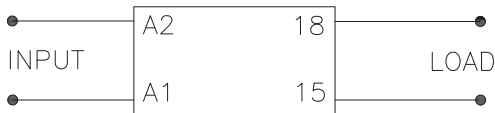
AD Series Class 8 Solid State Relays for Hazardous Locations Dimensions and Derating Charts

Dimensions

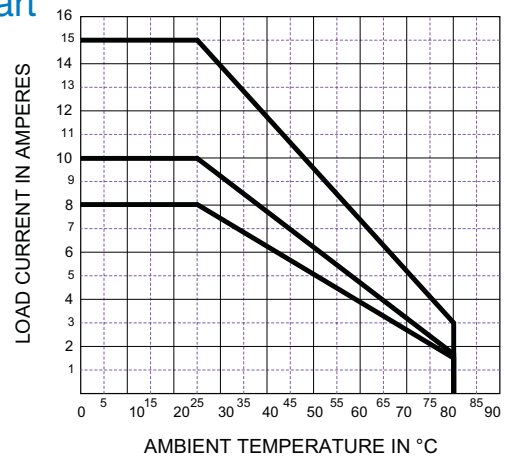
inches [mm]



Wiring Diagram



Derating Chart



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