

AZ2160/AZ2161

MINIATURE POWER RELAY

FEATURES

- Versatility of both PC and "Trace-Saver" quick connect terminals on contacts
- 30 Amp switching capability for both N.O. and N.C. contacts
- 1 Form A, B and C contacts available
- DC coils to 120 VDC
- Life expectancy to 10 million operations
- Class B insulation for high temperature applications
- Class F (155°C) version available
- Available with an epoxy seal for automatic wave soldering and cleaning
- UL, CUR file 44211 including versions meeting UL 508 and UL 873 spacing contact rating requirements



CONTACTS

Arrangement	SPDT (1 Form C) SPST (1 Form A and 1 Form B)
Ratings	Noninductive load: Max. switched power: 900 W or 7200 VA Max. switched current: 30 A Max. switched voltage: 30 VDC or 300 VAC UL Rating: See chart for UL contact ratings. AZ2160 Series meets UL 508 Group A spacing and UL 873 refrigeration and safety control spacing requirements. AZ2161 Series meets UL 508 Group B spacing requirements.
Material	Silver cadmium oxide
Resistance	20 milliohms initially (at rated current voltage drop method)

COIL

Power	
At Pickup Voltage (typical)	500 W
Max. Continuous Dissipation	2.2 W at 20°C (68°F) 1.8 W at 40°C (104°F)
Temperature Rise	38°C (68°F) at nominal coil voltage
Temperature	Max. 130°C (266°F) Class B Max. 155°C (311°F) Class F

NOTES

1. All values at 20°C (68°F).
2. Relay may pull in with less than "Must Operate" value.
3. Unsealed relays cannot be dip cleaned.
4. Avoid thermal shock during immersion cleaning.
5. Specifications subject to change without notice.
6. Other coil resistances and sensitivities available upon request. Please contact factory.

GENERAL DATA

Life Expectancy Mechanical Electrical	Minimum operations 1 x 10 ⁷ 1 x 10 ⁵ at 30 A 120 VAC Res. N.O.
Operate Time (max.)	Max. 12 ms Typical: 8 ms
Release Time (max.)	Max. 5 ms Typical: 3.5 ms
Dielectric Strength (at sea level for 1 min.)	Group A: 2500 Vrms contact to coil Group B: 2000 Vrms contact to coil 1500 Vrms between open contacts
Insulation Resistance	100 megohms min. at 500 VDC, 20°C 50% RH
Dropout	Greater than 10% of nominal coil voltage
Ambient Temperature Operating Storage	At nominal coil voltage -55°C (-67°F) to 100°C (212°F) Class B -55°C (-67°F) to 125°C (257°F) Class F -55°C (-67°F) to 130°C (266°F) Class B -55°C (-67°F) to 155°C (311°F) Class F
Vibration	0.062" DA at 10-55 Hz
Shock	20 g
Enclosure	P.B.T. polyester
Terminals	Tinned copper alloy, PC with "Fast-On" tabs, .250" wide, on top
Max. Solder Temp.	270°C (518°F)
Max. Solder Time	5 seconds
Max. Solvent Temp.	80°C (176°F)
Max. Immersion Time	30 seconds
Weight	43 grams



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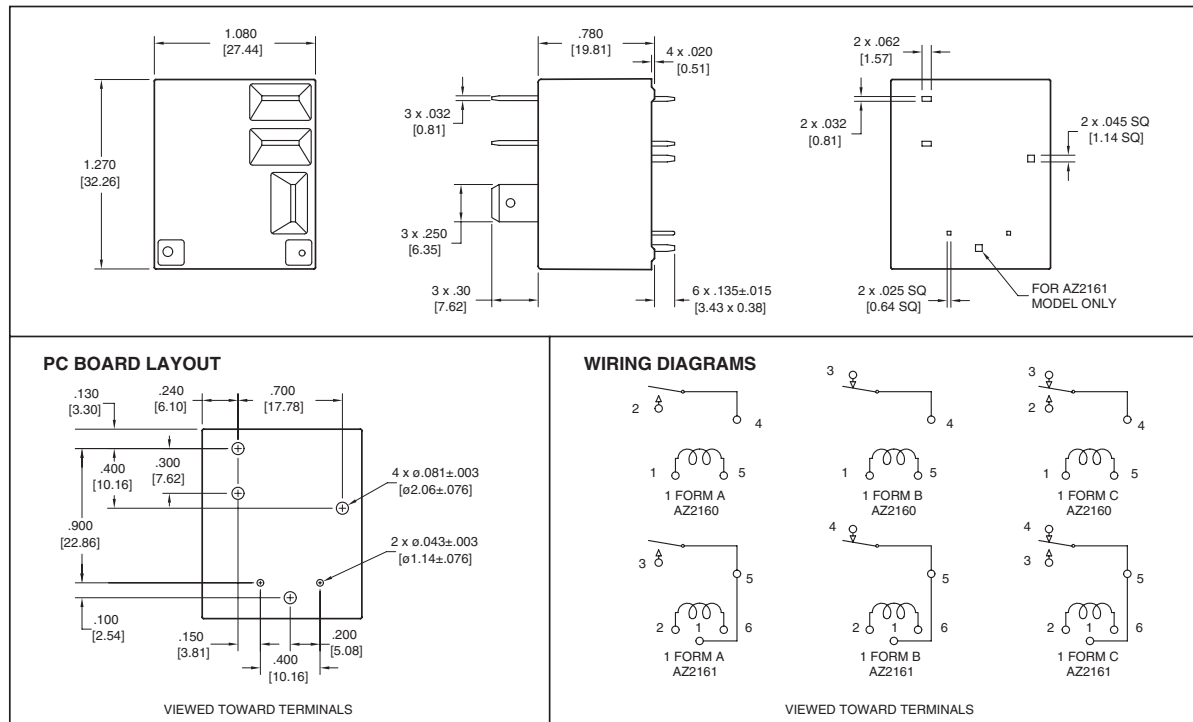
RELAY ORDERING DATA

STANDARD RELAYS: 1 Form A (SPST): UL 508 Group A; UL 873 Version					
COIL SPECIFICATIONS				ORDER NUMBER*	
Nominal Coil VDC	Must Operate VDC	Max. Continuous VDC	Coil Resistance $\pm 10\%$	Unsealed	Epoxy Sealed
5	3.75	7.3	27	AZ2160-1A-5D	AZ2160-1A-5DE
6	4.50	8.9	40	AZ2160-1A-6D	AZ2160-1A-6DE
9	6.75	13.9	97	AZ2160-1A-9D	AZ2160-1A-9DE
12	9.00	17.5	155	AZ2160-1A-12D	AZ2160-1A-12DE
15	10.50	22.5	256	AZ2160-1A-15D	AZ2160-1A-15DE
18	13.50	27.4	380	AZ2160-1A-18D	AZ2160-1A-18DE
24	18.00	36.1	660	AZ2160-1A-24D	AZ2160-1A-24DE
48	36.00	68.4	2360	AZ2160-1A-48D	AZ2160-1A-48DE
70	52.50	104.4	5500	AZ2160-1A-70D	AZ2160-1A-70DE

STANDARD RELAYS: 1 Form A (SPST): UL 508 Group B Version					
COIL SPECIFICATIONS				ORDER NUMBER*	
Nominal Coil VDC	Must Operate VDC	Max. Continuous VDC	Coil Resistance $\pm 10\%$	Unsealed	Epoxy Sealed
5	3.75	7.3	27	AZ2161-1A-5D	AZ2161-1A-5DE
6	4.50	8.9	40	AZ2161-1A-6D	AZ2161-1A-6DE
9	6.75	13.9	97	AZ2161-1A-9D	AZ2161-1A-9DE
12	9.00	17.5	155	AZ2161-1A-12D	AZ2161-1A-12DE
15	10.50	22.5	256	AZ2161-1A-15D	AZ2161-1A-15DE
18	13.50	27.4	380	AZ2161-1A-18D	AZ2161-1A-18DE
24	18.00	36.1	660	AZ2161-1A-24D	AZ2161-1A-24DE
48	36.00	68.4	2360	AZ2161-1A-48D	AZ2161-1A-48DE
70	52.50	104.4	5500	AZ2161-1A-70D	AZ2161-1A-70DE
110	82.50	163.2	13450	AZ2161-1A-110D	AZ2161-1A-110DE

*Substitute "1B" or "1C" in place of the "1A" to indicate 1 Form B and 1 Form C respectively. To indicate Class F version add suffix "F".

MECHANICAL DATA



Dimensions in inches with metric equivalents in parentheses. Tolerance: $\pm .010$ "



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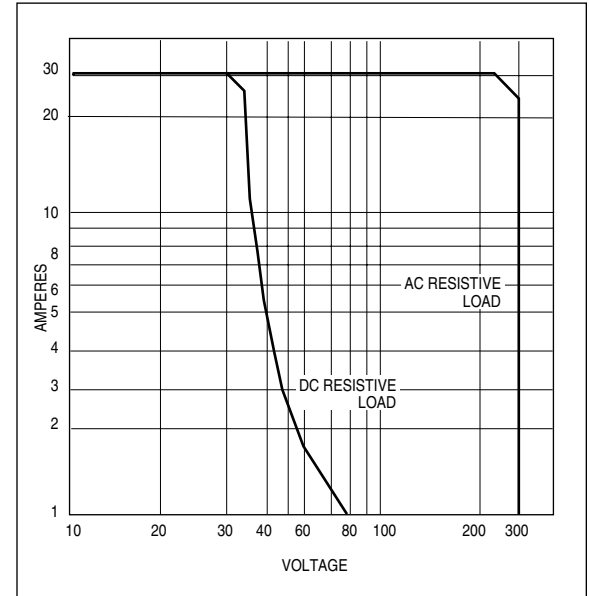
UL/CUR File E44211 Approved Contact Ratings

Load Type	Cycles	Volts	Form A (NO)	Form B (NC)	Form C	
					NO	NC
General Purpose (Inductive)	100,000	125 or 240 VAC	30 A	15 A	—	15 A
	30,000	277 VAC	30 A	30 A	30 A	30 A
Resistive	100,000	125 or 240 VAC	30 A	15 A	—	—
	100,000	30 VDC	20 A	10 A	20 A	10 A
	100,000	277 VAC	20 A	—	—	—
	100,000 *	240 VAC	15 A	—	—	—
Ballast	6,000	125, 240 or 277 VAC	6 A	3 A	6 A	3 A
Pilot Duty	6,000	125 VAC	800 VA	290 VA	800 VA	290 VA
	30,000	125 VAC	800 VA	—	690 VA	—
	100,000	125 VAC	690 VA	—	470 VA	275 VA
	6,000	240 VAC	1152 VA	768 VA	1152 VA	768 VA
	100,000	277 VAC	764 VA	—	764 VA	—
Motor Load	6,000	125 VAC	1 HP	1/4 HP	1 HP	1/4 HP
	6,000	240 VAC	2 HP	1 HP	2 HP	1 HP
	30,000	125 VAC	1 HP	—	1 HP	—
	100,000	125 or 277 VAC	3/4 HP	—	3/4 HP	—
Definite Purpose (LRA-Locked Rotor) (FLA-Full Load)	30,000 **	120 VAC	82.8 LRA 13.8 FLA	—	82.8 LRA 13.8 FLA	—
	30,000	125 VAC	96 LRA 30 FLA	33 LRA 10 FLA	60 LRA 20 FLA	33 LRA 10 FLA
	30,000 **	125 VAC	60 LRA 20 FLA	30 LRA 12 FLA	60 LRA 20 FLA	30 LRA 12 FLA
	100,000	125 VAC	82.8 LRA 27 FLA	—	82.8 LRA 27 FLA	—
	30,000	240 VAC	80 LRA 30 FLA	33 LRA 10 FLA	60 LRA 20 FLA	33 LRA 10 FLA
	30,000 **	240 VAC	41.4 LRA 6.9 FLA	—	41.4 LRA 6.9 FLA	—
	100,000	277 VAC	60 LRA 20 FLA	—	60 LRA 20 FLA	—
	100,000	277 VAC	60 LRA 20 FLA	—	60 LRA 20 FLA	—
Tungsten	6,000	125 VAC	15A	—	15A	3A
	6,000	240 VAC	5A	—	5A	3A
	6,000	120 VAC	—	3A	—	—
	6,000	240 VAC	—	3A	—	—
TV-5	25,000	120 VAC	TV-5	—	TV-5	TV-3
TV-3	25,000	120 VAC	—	TV-3	—	TV-3

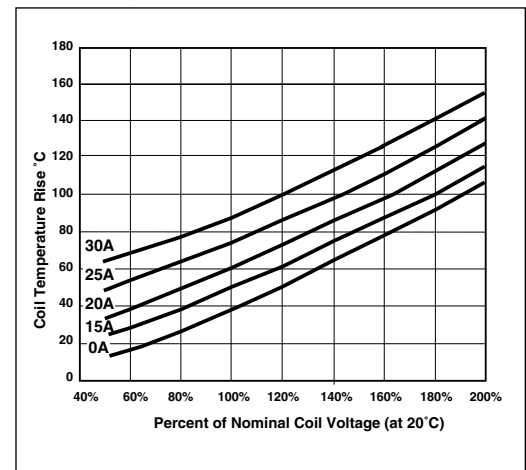
* Ambient temperature 96°C (208°F) max. sealed and 105°C (221°F) unsealed.

** Ambient temperature 85°C (185°F) max. sealed and unsealed.

Maximum Switching Capacity



Coil Temperature Rise



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