

# AZ2100

## 40A MINIATURE POWER RELAY

### FEATURES

- Versatility of both PC and "Trace-Saver" quick-connect terminals on contacts
- 40 Amp switching capability
- 1 Form A, B and C contacts available
- DC coils to 110VDC
- 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 immersion cleaning
- Proof Tracking Index (PTI/CTI) 175
- UL, CUR file E44211 including versions meeting UL 508 and UL 873 spacing and contact rating requirements; VDE 40023154 (some models)

### CONTACTS

<b>Arrangement</b>	SPDT (1 Form C) SPST (1 Form A and 1 Form B)
<b>Ratings</b>	Resistive load: Max. switched power: 600W or 10,000VA Max. switched current: 40A (Form A), 15A (Form B) Max. switched voltage: 30VDC or 277VAC  <b>UL Rating:</b> See chart for UL contact ratings. AZ2100 Series meets UL 508 Group A spacing and UL 873 refrigeration and safety control requirements. AZ2101 Series meets UL 508 Group B spacing requirements.  <b>VDE Rating:</b> AZ2100-1A: 25A for class F/20A for class B type at 250VAC, 10k cycles, resistive AZ2100-1C: 20A at 250VAC, 10k cycles, resistive
<b>Material</b>	Silver cadmium oxide
<b>Resistance</b>	< 50 milliohms initially (at 1A, 24V voltage drop method)

### COIL

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



### GENERAL DATA

<b>Life Expectancy</b> <b>Mechanical</b> <b>Electrical</b>	Minimum operations 1 x 10 <sup>7</sup> 1 x 10 <sup>5</sup> at 30A, 120VAC Res. (N.O.)
<b>Operate Time (max.)</b>	(Max. 15ms) Typical: 8ms
<b>Release Time (max.)</b>	(Max. 10ms) Typical: 3.5ms
<b>Dielectric Strength (at sea level for 1 min.)</b>	2500Vrms contact to coil 1500Vrms between open contacts
<b>Insulation Resistance</b>	1000 megohms min. at 500 VDC, 20°C, 50% RH
<b>Dropout</b>	Greater than 10% of nominal coil voltage
<b>Ambient Temperature</b> <b>Operating</b>  <b>Storage</b>	-55°C (-67°F) to 85°C (185°F)  -55°C (-67°F) to 105°C (221°F)
<b>Vibration</b>	0.062" DA at 10–55 Hz
<b>Shock</b>	10 g
<b>Enclosure</b>	P.B.T. polyester
<b>Terminals</b>	Tinned copper alloy, P.C. with quick-connect tabs, .250" wide, on top Note: Allow suitable slack on leads when wiring, do not subject the terminals to excessive force.
<b>Max. Solder Temp.</b>	270°C (518°F)
<b>Max. Solder Time</b>	5 seconds
<b>Max. Solvent Temp.</b>	80°C (176°F)
<b>Max. Immersion Time</b>	30 seconds
<b>Weight (Approx.)</b>	35 grams

### NOTES

1. All values at 20°C (68°F).
2. Relay may pull in with less than "Must Operate" value.
3. Unsealed relays should not be dip cleaned.
4. Other coil resistances and sensitivities available upon request.
5. Specifications subject to change without notice.

**AMERICAN ZETTLER, INC.**

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2/05/16

# AZ2100

## RELAY ORDERING DATA: 1/8" Clearance, 1/4" Creepage

### STANDARD RELAYS: 1 Form A (SPST N.O.)

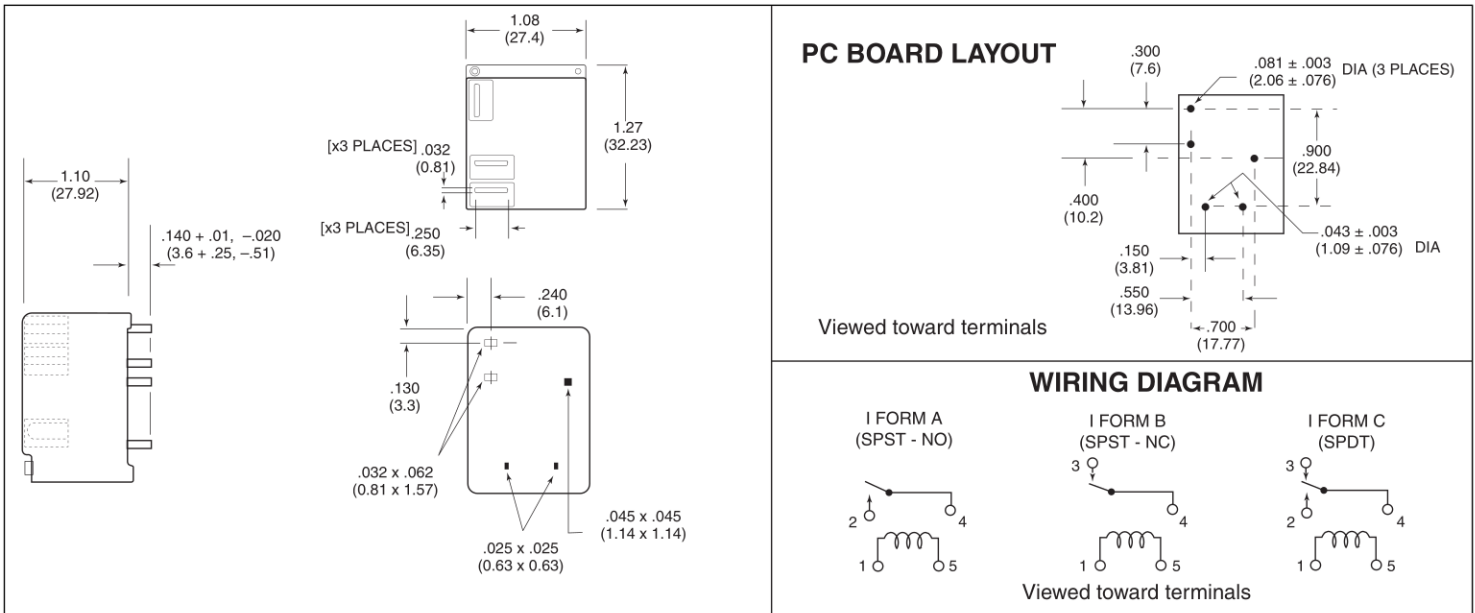
COIL SPECIFICATIONS				ORDER NUMBER*	
Nominal Coil VDC	Max. Continuous VDC	Coil Resistance $\pm 10\%$	Must Operate VDC	Unsealed	Sealed
5	7.3	27	3.75	AZ2100-1A-5D	AZ2100-1A-5DE
6	8.9	40	4.5	AZ2100-1A-6D	AZ2100-1A-6DE
9	13.9	97	6.75	AZ2100-1A-9D	AZ2100-1A-9DE
12	17.5	155	9.0	AZ2100-1A-12D	AZ2100-1A-12DE
15	22.5	256	11.25	AZ2100-1A-15D	AZ2100-1A-15DE
18	27.4	380	13.5	AZ2100-1A-18D	AZ2100-1A-18DE
24	36.1	660	18.0	AZ2100-1A-24D	AZ2100-1A-24DE
48	68.4	2,560	36.0	AZ2100-1A-48D	AZ2100-1A-48DE
70	104.4	5,500	52.5	AZ2100-1A-70D	AZ2100-1A-70DE
110	163.2	13,450	82.5	AZ2100-1A-110D	AZ2100-1A-110DE

### STANDARD RELAYS: 1 Form C (SPDT)

COIL SPECIFICATIONS				ORDER NUMBER*	
Nominal Coil VDC	Max. Continuous VDC	Coil Resistance $\pm 10\%$	Must Operate VDC	Unsealed	Sealed
5	7.3	27	3.75	AZ2100-1C-5D	AZ2100-1C-5DE
6	8.9	40	4.5	AZ2100-1C-6D	AZ2100-1C-6DE
9	13.9	97	6.75	AZ2100-1C-9D	AZ2100-1C-9DE
12	17.5	155	9.0	AZ2100-1C-12D	AZ2100-1C-12DE
15	22.5	256	11.25	AZ2100-1C-15D	AZ2100-1C-15DE
18	27.4	380	13.5	AZ2100-1C-18D	AZ2100-1C-18DE
24	36.1	660	18.0	AZ2100-1C-24D	AZ2100-1C-24DE
48	68.4	2,560	36.0	AZ2100-1C-48D	AZ2100-1C-48DE
70	104.4	5,500	52.5	AZ2100-1C-70D	AZ2100-1C-70DE
110	163.2	13,450	82.5	AZ2100-1C-110D	AZ2100-1C-110DE

\*Substitute "1B" in place of "1A" or "1C" to indicate 1 Form B. To indicate Class F version, add suffix "F".  
Other coil resistances and sensitivities available upon request. Please contact the factory.

## MECHANICAL DATA



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

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# AZ2100

## RELAY ORDERING DATA: 1/16" Clearance, 1/8" Creepage

COIL SPECIFICATIONS				ORDER NUMBER*	
Nominal Coil VDC	Max. Continuous VDC	Coil Resistance $\pm 10\%$	Must Operate VDC	Unsealed	Sealed
5	7.3	27	3.75	AZ2101-1A-5D	AZ2101-1A-5DE
6	8.9	40	4.5	AZ2101-1A-6D	AZ2101-1A-6DE
9	13.9	97	6.75	AZ2101-1A-9D	AZ2101-1A-9DE
12	17.5	155	9.0	AZ2101-1A-12D	AZ2101-1A-12DE
15	22.5	256	11.25	AZ2101-1A-15D	AZ2101-1A-15DE
18	27.4	380	13.5	AZ2101-1A-18D	AZ2101-1A-18DE
24	36.1	660	18.0	AZ2101-1A-24D	AZ2101-1A-24DE
48	68.4	2,560	36.0	AZ2101-1A-48D	AZ2101-1A-48DE
70	104.4	5,500	52.5	AZ2101-1A-70D	AZ2101-1A-70DE
110	163.2	13,450	82.5	AZ2101-1A-110D	AZ2101-1A-110DE

COIL SPECIFICATIONS				ORDER NUMBER*	
Nominal Coil VDC	Max. Continuous VDC	Coil Resistance $\pm 10\%$	Must Operate VDC	Unsealed	Sealed
5	7.3	27	3.75	AZ2101-1C-5D	AZ2101-1C-5DE
6	8.9	40	4.5	AZ2101-1C-6D	AZ2101-1C-6DE
9	13.9	97	6.75	AZ2101-1C-9D	AZ2101-1C-9DE
12	17.5	155	9.0	AZ2101-1C-12D	AZ2101-1C-12DE
15	22.5	256	11.25	AZ2101-1C-15D	AZ2101-1C-15DE
18	27.4	380	13.5	AZ2101-1C-18D	AZ2101-1C-18DE
24	36.1	660	18.0	AZ2101-1C-24D	AZ2101-1C-24DE
48	68.4	2,560	36.0	AZ2101-1C-48D	AZ2101-1C-48DE
70	104.4	5,500	52.5	AZ2101-1C-70D	AZ2101-1C-70DE
110	163.2	13,450	82.5	AZ2101-1C-110D	AZ2101-1C-110DE

\*Substitute "1B" in place of "1A" or "1C" to indicate 1 Form B. To indicate Class F version, add suffix "F".  
Other coil resistances and sensitivities available upon request. Please contact the factory.

### MECHANICAL DATA

#### PC BOARD LAYOUT

Viewed toward terminals

#### WIRING DIAGRAM

1 FORM A  
(SPST - NO)

1 FORM B  
(SPST - NC)

1 FORM C  
(SPDT)

Viewed toward terminals

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

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## UL/CUR File E44211 Approved Contact Ratings

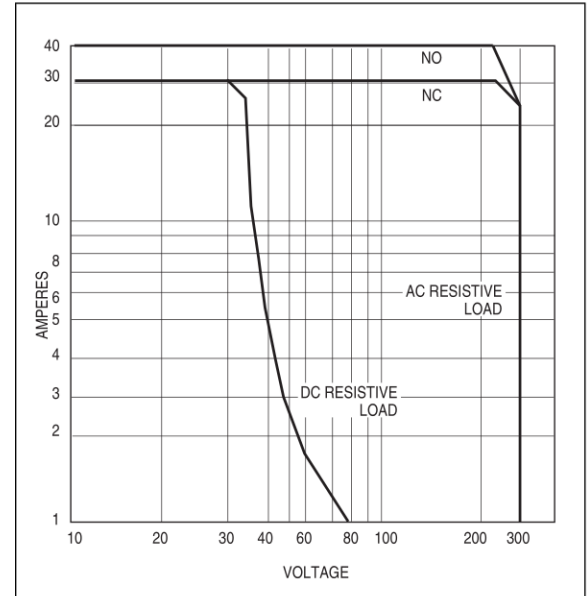
Load Type	Cycles	Volts	Form A (NO)	Form B (NC)	Form C	
					NO	NC
General Purpose (Inductive)	100,000	125 or 240VAC	30A	15A	30A	15A
	30,000	277VAC	30A	30A	30A	30A
Resistive	100,000	125 or 240VAC	30A	15A	—	—
	100,000	30VDC	20A	10A	20A	10A
	100,000	277VAC	20A	—	—	—
	100,000 *	240VAC	15A	—	—	—
	6,000	250VAC	40A	—	40A	—
Ballast	6,000	125, 240 or 277VAC	6A	3A	6A	3A
	6,000	277VAC	20A	—	—	—
Pilot Duty	6,000	125VAC	800 VA	290VA	800VA	290VA
	30,000	125VAC	800 VA	—	690 VA	—
	100,000	125VAC	690 VA	—	470 VA	275VA
	6,000	240VAC	1152 VA	768VA	1152 VA	768 VA
	100,000	277VAC	764 VA	—	764 VA	—
Motor Load	6,000	125VAC	1HP	1/4HP	1HP	1/4HP
	6,000***	240VAC	3HP	1HP	2HP	1HP
	30,000	125VAC	1HP	—	1HP	—
	100,000	125 or 277 VAC	3/4 HP	—	3/4 HP	—
Definite Purpose	30,000 **	120VAC	82.8 LRA 13.8 FLA	—	82.8LRA 13.8 FLA	—
	30,000	125VAC	96LRA 30FLA	33LRA 10FLA	60LRA 20FLA	33LRA 10FLA
(LRA-Locked Rotor)	30,000 **	125VAC	60 LRA 20 FLA	30 LRA 12 FLA	60 LRA 20 FLA	30LRA 12FLA
	100,000	125VAC	82.8LRA 27 FLA	—	82.8 LRA 27 FLA	—
(FLA-Full Load)	30,000	240VAC	80 LRA 30 FLA	33 LRA 10 FLA	60 LRA 20 FLA	33 LRA 10 FLA
	30,000 **	240VAC	41.4 LRA 6.9 FLA	—	41.4 LRA 6.9 FLA	—
	100,000	277VAC	60LRA 20FLA	—	60LRA 20FLA	—
	6,000	125VAC	15A	—	15A	3A
Tungsten	6,000	240VAC	5A	—	5A	3A
	6,000	120VAC	—	3A	—	—
	6,000	240VAC	—	3A	—	—
	6,000	240VAC	—	3A	—	—
TV-5	25,000	120VAC	TV-5	—	TV-5	TV-3
TV-3	25,000	120VAC	—	TV-3	—	TV-3

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

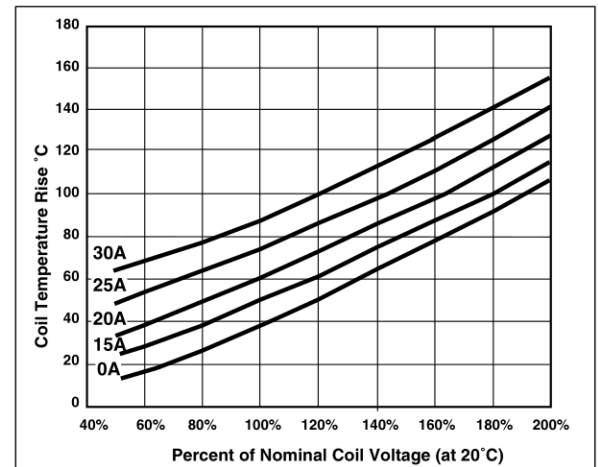
\*\* Ambient temperature 85°C (185°F) max. sealed and unsealed.

\*\*\* Ambient temperature 65°C (149°F) max. sealed and unsealed.

### Maximum Switching Capacity



### Coil Temperature Rise



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