

AZ2800 / AZ2850

40 AMP MINIATURE POWER RELAY

FEATURES

- DPST-N.O. and DPDT configuration
- Meets 8 mm creepage
- 4 kV dielectric strength
- Epoxy sealed version available
- UL Class F insulation (155°C) standard
- PCB and QC terminals available
- UL, CUR file E44211
- VDE certificate 40023442



CONTACTS

Arrangement	DPST-N.O. (2 Form A), DPDT (2 Form C)
Ratings (max.)	(Resistive load) switched power 1200 W or 11080 VA switched current 40 A (N.O.), 3 A (N.C.) switched voltage 30 VDC* or 600 VAC
	* Note: If switching voltage is greater than 30 VDC, special precautions must be taken. Please contact the factory.
Rated Loads	
UL	N.O. contacts 40 A at 277 VAC, Resistive, 6k cycles [1][2] 30 A at 277 VAC, General Use, 100k cycles [1][2] 10 A at 600 VAC, General Use, 6k cycles [1] 1 HP at 120 VAC, 100k cycles [1][2] 2.5 HP at 240 VAC, 100k cycles [1][2] 8 FLA / 26 LRA at 277/480/600 VAC, 30k cycles [1]
	N.O. contacts, DC coils only 25.3 FLA / 110 LRA at 240VAC, 30k cycles [1][2]
	N.C. contacts 3 A at 277 VAC, General Use, 100k cycles [1][2] 2 A at 480 VAC, General Use, 6k cycles [1] 1 A at 600 VAC, General Use, 6k cycles [1] 3 FLA / 3 LRA at 240 VAC, 30k cycles [1] 2 FLA / 2 LRA at 277/480 VAC, 30k cycles [1] 1 FLA / 1 LRA at 600 VAC, 30k cycles [1]
VDE	N.O. contacts AZ2800 series 20 A at 250 VAC, Resistive, 50k cycles [2] AZ2850 series 30 A at 250 VAC, Resistive, 50k cycles [2]
	N.C. contacts 3 A at 250 VAC, Resistive, 50k cycles [2]
Contact materials	AgCdO - silver cadmium oxide [1] AgSnO ₂ - silver tin oxide [2]
Initial resistance	< 50 mΩ (24 V, 1 A - voltage drop method)

NOTES

1. All values at 20°C (68°F).
2. Relay may pull in with less than "Must Operate" value.
3. When using AZ2800 series, allow suitable slack in wiring, and do not subject the terminals to excessive force. No washing or soldering is allowed.
4. Specifications subject to change without notice.

GENERAL DATA

Life Expectancy	(minimum operations) Mechanical 5 x 10 ⁷ Electrical 1 x 10 ⁵ at 30 A, 277 VAC Resistive (N.O.)
Operate Time	DC coil types 15 ms (typ.), 25 ms (max. including bounce) at nominal coil voltage
Release Time	DC coil types 10 ms (typ.), 25 ms (max. including bounce) at nom. coil voltage, without coil suppression
Dielectric Strength	(at sea level for 1 min.) Coil to contact 4000 V _{RMS} Between open contacts 1500 V _{RMS} Between contact sets 2000 V _{RMS}
Surge voltage	Coil to contact 10 kV (at 1.2 x 50 μs)
Insulation Resistance	1000 MΩ (min.) at 20°C, 500 VDC, 50% RH
Temperature Range	Operating (at nominal coil voltage) DC coil types -40°C (-40°F) to 85°C (185°F) AC coil types -40°C (-40°F) to 65°C (149°F)
Vibration resistance	1.65 mm (0.065") DA at 10–55 Hz
Shock	(11ms, 1/2 sine pulse) Operational 10 g (no contact opening > 100μsec) Non-destructive 100 g
Enclosure	P.B.T. polyester
Terminals	AZ2800 series Quick connect tabs AZ2850 series Tinned copper alloy, P. C.
Soldering	(AZ2850 series only) Max. Temperature 270°C (518°F) Max. Time 5 seconds
Cleaning	Max. Solvent Temp. 80°C (176°F) Max. Immersion Time 30 seconds
Weight	86 grams
Packing unit in pcs	20 per tray / 100 per carton box

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This product specification to be used only together with the application notes which can be downloaded from www.ZETTLERelectronics.com/pdfs/relais/ApplicationNotes.pdf

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COIL

Nominal coil voltages	see coil voltage specifications tables
Dropout	
DC coil types	> 10% of nominal coil voltage
AC coil types	> 20% of nominal coil voltage
Power at pickup voltage	(typ.)
DC coil types	925 mW
AC coil types	2.6 VA
Max. continuous dissipation	at 20°C (68°F) ambient
DC coil types	5 W
AC coil types	7 VA
Temperature Rise	(at nominal coil voltage)
DC coil types	48 K (86°F)
AC coil types	68 K (122°F)
Max. temperature	155°C (311°F)

DC COIL VOLTAGE SPECIFICATIONS

Nominal Coil VDC	Must Operate VDC	Max. Cont. VDC	Nom. Current mA ± 10%	Resistance Ohm ± 10%
5	3.8	8.0	327	15.3
6	4.5	9.6	272	22
12	9.0	19.2	140	86
24	18.0	38.4	68.5	350
48	36.0	76.8	34.5	1390
110	82.5	176	15.2	7255

AC COIL VOLTAGE SPECIFICATIONS

50 Hz coil

Nominal Coil VAC	Must Operate VAC	Dropout VAC	Maximum VAC *	Resistance Ohm ± 10%
24	19.2	4.8	26.4	45
120	96	24	132	1125
208	167	42	229	3278
220	176	44	242	3800
240	192	48	264	4500
277	222	55	305	5960

60 Hz coil

Nominal Coil VAC	Must Operate VAC	Dropout VAC	Maximum VAC *	Resistance Ohm ± 10%
24	19.2	4.8	26.4	36
120	96	24	132	830
208	167	42	229	2600
220	176	44	242	2870
240	192	48	264	3800
277	222	55	305	4700

* Note: Maximum VAC is the maximum voltage for a short duration.

ORDERING DATA

AZ28	□	□	□	□	□	□	□	□	□
	Terminal option (AZ2800 only)								
	nil: 6.3 x 0.8 mm QC coil terminals								
	K: 4.8 x 0.5 mm QC coil terminals								
	Sealing option								
	nil: non sealed								
	E: sealed version								
	Coil type								
	D: DC coil								
	A: 60 Hz AC coil								
	A5: 50 Hz AC coil								
	Nominal coil voltage								
	see coil voltage specifications tables								
	Contact material								
	nil: silver cadmium oxide								
	E: silver tin oxide								
	Contact arrangement								
	2A: 2 Form A (DPST)								
	2C: 2 Form C (DPDT)								
	Series								
	00: Flange mount, QC terminals on top								
	50: PCB mount, solder terminals								

Example ordering data

AZ2800-2AE-12D	Flange mount, 2 Form A, silver-tin-oxide, 12 VDC nominal coil voltage, non sealed, 6.3x0.8 mm coil terminals
AZ2800-2A-240A5K	Flange mount, 2 Form A, silver-cadmium-oxide, 240 VAC / 50 Hz nominal coil voltage, non sealed, 4.8 x 0.5 mm coil terminals
AZ2850-2CE-24DE	PCB mount, 2 Form C, silver-tin-oxide, 24 VDC nominal coil voltage, sealed

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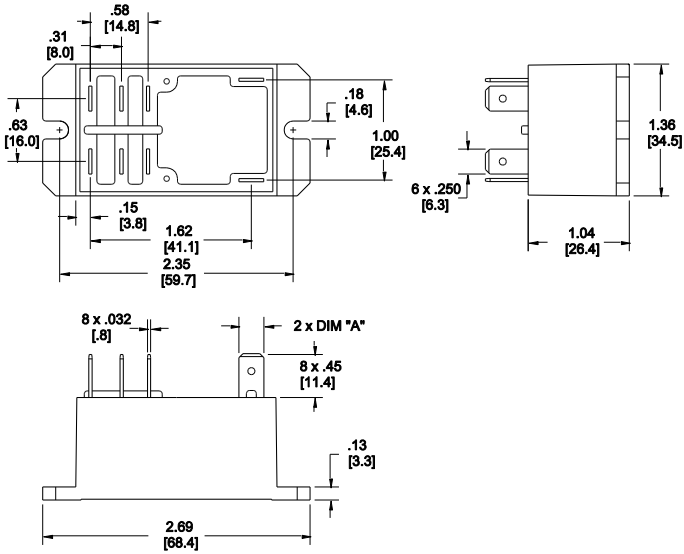
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AZ2800 MECHANICAL DATA

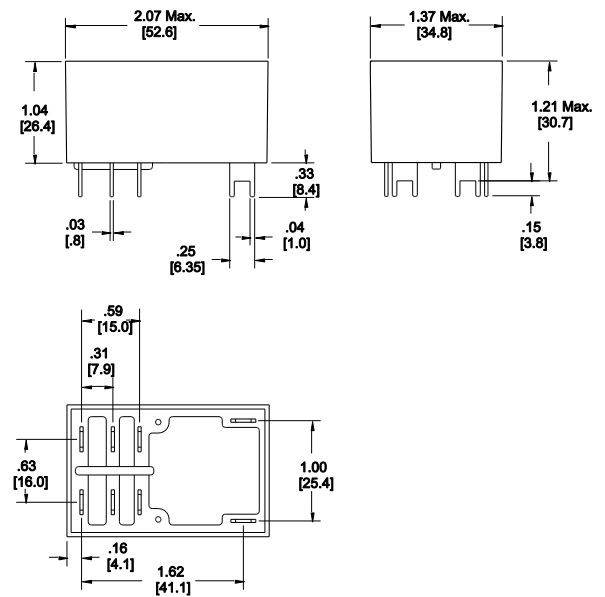
Dimensions in inches with metric equivalents in parentheses. Tolerance: $\pm .010$ "



Terminal option	DIM "A"
standard	.250 [6.35] x .032 [8.1] THK
option K	.187 [4.75] x .020 [5.1] THK

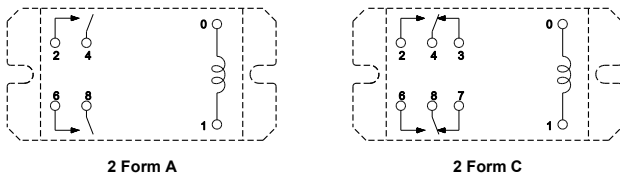
AZ2850 MECHANICAL DATA

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



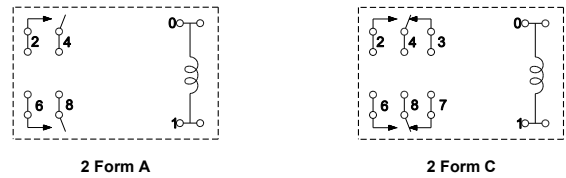
AZ2800 WIRING DIAGRAMS

Viewed towards terminals



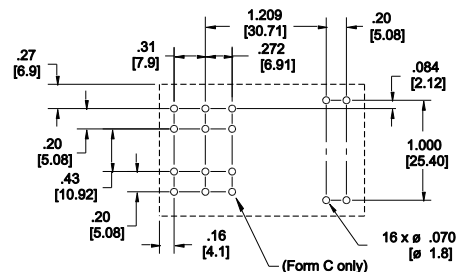
AZ2850 WIRING DIAGRAMS

Viewed towards terminals



AZ2850 PC BOARD LAYOUT

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



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