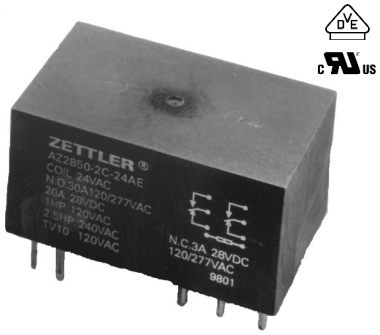
AZ2800 / AZ2850

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.) switched power switched current switched voltage	(Resistive load) 1200 W or 11080 VA 40 A (N.O.), 3 A (N.C.) 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/CUR**	**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 AZ2800 series AZ2850 series	**N.O. contacts** 20 A at 250 VAC, Resistive, 50k cycles [2] 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)

GENERAL DATA

Life Expectancy mechanical electrical	(minimum operations) 5×10^7 1×10^5 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 coil to contact between open contacts between contact sets	(at sea level for 1 min.) 4000 V_{RMS} 1500 V_{RMS} 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 DC coil types AC coil types	(at nominal coil voltage) -40°C (-40°F) to 85°C (185°F) -40°C (-40°F) to 65°C (149°F)
Vibration resistance	1.65 mm (0.065") DA at 10–55 Hz
Shock operational non-destructive	(11ms, 1/2 sine pulse) 10 g (no contact opening > 100usec) 100 g
Enclosure	P.B.T. polyester
Terminals AZ2800 series AZ2850 series	 Quick connect tabs Tinned copper alloy, P. C.
Soldering max. temperature max. time	(AZ2850 series only) 270°C (518°F) 5 seconds
Cleaning max. solvent temp. max. immersion time	 80°C (176°F) 30 seconds
Weight	86 grams (approx.)
Packing unit in pcs	20 per tray / 100 per carton box

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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
Coil power	at 20°C (68°F) ambient temperature
DC coil types	
nominal	0.9 W (approx.)
max. continuous	5 W
at pickup voltage	925 mW (typ.)
AC coil types	
max. continuous	7 VA
at pickup voltage	2.6 VA (typ.)
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)

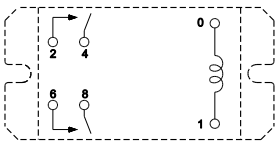
Series
00: Flange mount, QC terminals on top
50: PCB mount, solder terminals

Example ordering data

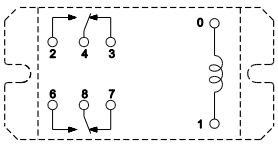
AZ2800-2AE-12D	Flange mount, 2 Form A, silver-tin-oxide, 12 VDC nominal coil voltage, non sealed, 6.3x0.8 mm coil terminals
AZ2800-2A-240A5K	Flange mount, 2 Form A, silver-cadmium-oxide, 240 VAC / 50 Hz nominal coil voltage, non sealed, 4.8 x 0.5 mm coil terminals
AZ2850-2CE-24DE	PCB mount, 2 Form C,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

AZ2800 WIRING DIAGRAMS

Viewed towards terminals



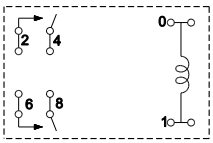
2 Form A



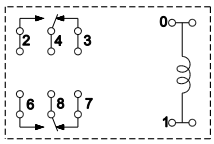
2 Form C

AZ2850 WIRING DIAGRAMS

Viewed towards terminals



2 Form A



2 Form C

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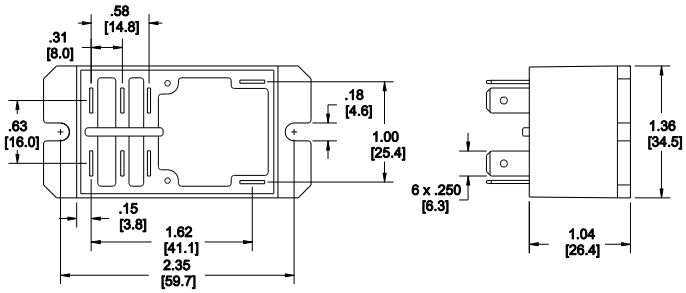
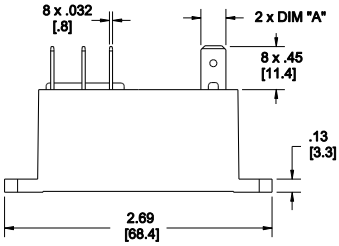
AZ2800 MECHANICAL DATA

Dimensions in inches with metric equivalents in parentheses. Tolerance: ± .010"

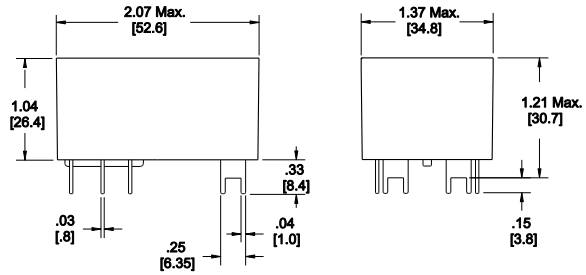


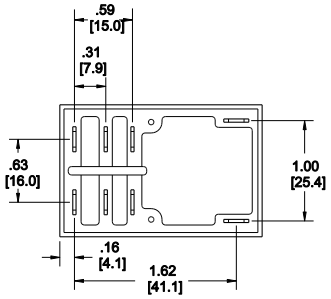


Terminal option	DIM "A"
standard	.250 [6.35] x .032 [.81] THK
option K	.187 [4.75] x .020 [.51] THK

AZ2850 MECHANICAL DATA

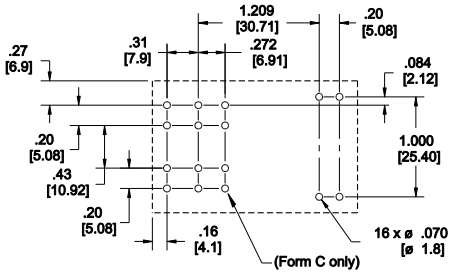
Dimensions in inches with metric equivalents in parentheses. Tolerance: ± .010"





AZ2850 PC BOARD LAYOUT

Dimensions in inches with metric equivalents in parentheses. Tolerance: ± .010"
Viewed towards terminals



NOTES

1. Specifications subject to change without notice.
2. All values at 20°C (68°F).
3. Relay may pull in with less than "Must Operate" value.
4. When using AZ2800 series, allow suitable slack in wiring, and do not subject the terminals to excessive force. No washing or soldering is allowed.
5. Coil suppression circuits such as diodes, etc. in parallel to the coil will lengthen the release time.

DISCLAIMER

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

The specification provides an overview of the most significant part features. Any individual applications and operating conditions are not taken into consideration. It is recommended to test the product under application conditions. Responsibility for the application remains with the customer. Proper operation and service life cannot be guaranteed if the part is operated outside the specified limits.