

# AZSR165

## 65 AMP POWER RELAY

### FEATURES

- Up to 80 Amp switching capability
- Wide contact gap of  $\geq 3.0$  mm
- Clearance and creepage of  $\geq 10$  mm
- 4 kV dielectric strength, 10 kV surge withstand voltage
- UL Class F insulation (155°C)
- UL / CUR E365652
- TÜV B170988793008



### CONTACTS

<b>Arrangement</b>	SPST-N.O. (1 Form A)
<b>Ratings (max.)</b>	(resistive load)
switched power	43200 VA
switched current	80 A
carrying current	65 A
switched voltage	690 VAC
<b>Rated Loads</b>	
<b>UL/TÜV</b>	80 A at 540 VAC, resistive, 85°C, 1k cycles 10 A make - 65 A carry - 10 A break at 690 VAC, resistive, 85°C, 100k cycles 20 A make - 65 A carry - 20 A break at 690 VAC, resistive, 85°C, 30k cycles
<b>Contact material</b>	AgNi
<b>Contact gap</b>	$\geq 3.0$ mm
<b>Initial resistance</b>	$\leq 10$ m $\Omega$ (10 A - voltage drop method)

### COIL

<b>Nominal coil DC voltages</b>	6, 9, 12, 24
<b>Dropout voltage</b>	$\geq 5\%$ of nominal coil voltage
<b>Holding voltage</b>	$\geq 40\%$ of nominal coil voltage
<b>Coil power</b>	
nominal	2.2 W
max. continuous	2.6 W
at pickup voltage	1.25 W
holding power	360 mW
<b>Temperature Rise</b>	70 K (126°F) at nominal coil voltage
<b>Max. temperature</b>	Class F insulation - 155°C (311°F)

### NOTES

1. All values at 20°C (68°F).
2. Relay may pull in with less than "Must Operate" value.
3. Provide sufficient PCB cross section on load terminals. Recommended cross section according to IEC 61810-1:2015: 25 mm<sup>2</sup>
4. Specifications subject to change without notice.

### GENERAL DATA

<b>Life Expectancy</b>	(minimum operations)
mechanical	$1 \times 10^6$
electrical	$3 \times 10^5$ at 10 A make/break - 65 A carry, 690 VAC, resistive $1 \times 10^3$ at 80 A, 540 VAC, resistive
<b>Operate Time</b>	40 ms (max.) at nominal coil voltage
<b>Release Time</b>	10 ms (max.) at nominal coil voltage, without coil suppression
<b>Dielectric Strength</b>	(at sea level for 1 min.) 4000 V <sub>RMS</sub> coil to contact 2000 V <sub>RMS</sub> between open contacts
<b>Surge Voltage</b>	coil to contact
coil to contact	10 kV (at 1.2 x 50 $\mu$ s)
<b>Insulation Resistance</b>	1000 M $\Omega$ (min.) at 20°C, 500 VDC, 50% RH
<b>Creepage</b>	coil to contact
coil to contact	$\geq 10.0$ mm
<b>Clearance</b>	coil to contact
coil to contact	$\geq 10.0$ mm
<b>Temperature Range</b>	(at nominal coil voltage)
operating	-40°C (-40°F) to 85°C (185°F)
<b>Vibration resistance</b>	1.5 mm (0.062") DA at 10-55 Hz
<b>Shock resistance</b>	10 g
<b>Enclosure</b>	P.B.T. polyester
<b>Terminals</b>	Tinned copper alloy, P. C.
<b>Soldering</b>	max. temperature
max. temperature	270 °C (518°F)
max. time	5 seconds
<b>Cleaning</b>	max. solvent temp.
max. solvent temp.	80°C (176°F)
max. immersion time	30 seconds
<b>Dimensions</b>	
length	38.0 mm (1,496")
width	33.0 mm (1,300")
height	41.5 mm (1,634")
<b>Weight</b>	76 grams (approx.)
<b>Packing unit in pcs</b>	10 per plastic tube / 150 per carton box
<b>Compliance</b>	UL 508, IEC 61810-1, RoHS, REACH

**ZETTLER electronics GmbH** - A ZETTLER GROUP Company

Junkersstr. 3, D-82178 Puchheim, Germany

phone: +49 89 800 97-0  
fax: +49 89 800 97-200

office@ZETTLERelectronics.com  
www.ZETTLERelectronics.com

This product specification is to be used only together with the application notes which can be downloaded from [www.ZETTLERelectronics.com/pdfs/relais/ApplicationNotes.pdf](http://www.ZETTLERelectronics.com/pdfs/relais/ApplicationNotes.pdf)

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## COIL VOLTAGE SPECIFICATIONS

Nominal Coil VDC	Must Operate VDC	Min. Holding VDC	Max. Cont. VDC	Resistance Ohm $\pm 10\%$
6	4.5	2.4	6.6	16.2
9	6.75	3.6	9.9	36.8
12	9.0	4.8	13.2	65.0
24	18.0	9.6	26.4	262

## ORDERING DATA

AZSR165-1A-DL

Nominal coil voltage  
see coil voltage specifications table

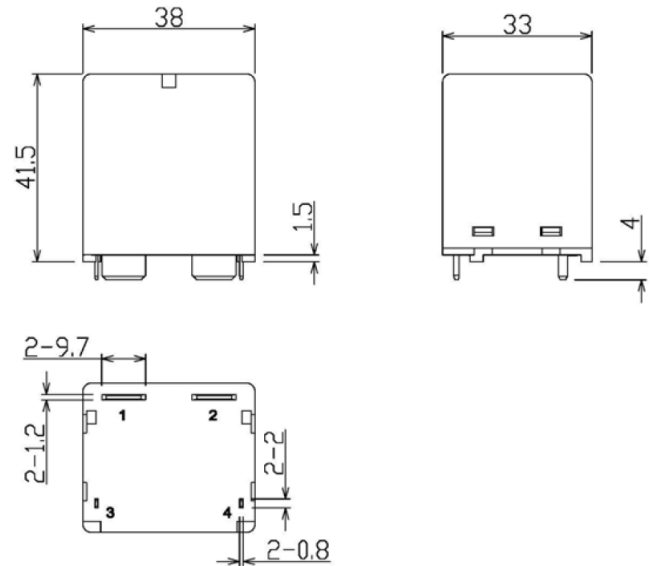
### Example ordering data

AZSR165-1A-12DL Contact material: silver nickel, 12 VDC nom. coil voltage

AZSR165-1A-9DL Contact material: silver nickel, 9 VDC nom. coil voltage

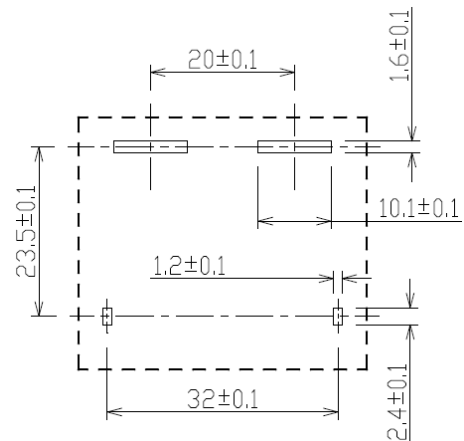
## MECHANICAL DATA

Dimensions in mm. Tolerance:  $\pm 0.5$  mm unless otherwise stated



## PC BOARD LAYOUT

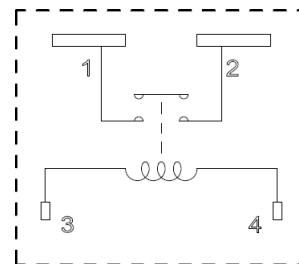
Dimensions in mm. Tolerance:  $\pm 0.1$  mm unless otherwise stated  
Viewed towards terminals.



## WIRING DIAGRAMS

Viewed towards terminals.

Note: Provide sufficient PCB cross section on load terminals. Recommended cross section according to IEC 61810-1: 25 mm<sup>2</sup>.



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