

# AZSR190

## 90/100 AMP POWER RELAY

### FEATURES

- Up to 100 Amp switching capability
- Wide contact gap of  $\geq 3.6$  mm
- Clearance and creepage of  $\geq 10$  mm
- 5 kV dielectric strength, 10 kV surge withstand voltage
- UL Class F insulation (155°C)
- UL / CUR E365652
- TÜV B170988793008



Illustration similar



### CONTACTS

<b>Arrangement</b>	SPST-N.O. (1 Form A)
<b>Ratings (max.)</b> standard version switched power switched current high current version switched power switched current switched voltage	(resistive load)  44000 VA 90 A  48000 VA 100 A  800 VAC
<b>Rated Loads</b> <b>UL</b>	55 A at 480 VAC, resistive, 85°C, 50k cycles 55 A at 690 VAC, resistive, 85°C, 20k cycles 55 A at 800 VAC, resistive, 85°C, 1k cycles 90 A at 480 VAC, resistive, 85°C, 1k cycles 100 A at 480 VAC, res., 85°C, 1k cycles ("T" version)
<b>TÜV</b>	30 A at 480 VAC, resistive, 85°C, 50k cycles 55 A at 480 VAC, resistive, 85°C, 30k cycles 55 A at 690 VAC, resistive, 85°C, 20k cycles 55 A at 800 VAC, resistive, 85°C, 1k cycles 90 A at 480 VAC, resistive, 85°C, 1k cycles 100 A at 480 VAC, res., 85°C, 1k cycles ("T" version)
<b>Contact material</b>	AgNi (silver nickel)
<b>Contact gap</b>	$\geq 3.6$ 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>	$\geq 10\%$ of nominal coil voltage
<b>Holding voltage</b>	$\geq 40\%$ of nominal coil voltage
<b>Coil power</b> nominal max. continuous at pickup voltage holding power	 1.9 W 2.3 W 1.1 W 310 mW
<b>Temperature Rise</b>	70 K (126°F) at nominal coil voltage
<b>Max. temperature</b>	Class F insulation - 155°C (311°F)

### GENERAL DATA

<b>Life Expectancy</b> mechanical electrical	(minimum operations) $1 \times 10^6$ $5 \times 10^4$ at 55 A, 480 VAC, resistive, 85°C $1 \times 10^3$ at 90 A, 480 VAC, resistive, 85°C
<b>Operate Time</b> <b>Release Time</b>	40 ms (max.) at nominal coil voltage 10 ms (max.) at nominal coil voltage, without coil suppression
<b>Dielectric Strength</b>	(at sea level for 1 min.) 5000 V <sub>RMS</sub> coil to contact 2500 V <sub>RMS</sub> between open contacts
<b>Surge Voltage</b> 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 <b>Clearance</b> coil to contact	$\geq 10.0$ mm $\geq 10.0$ mm
<b>Temperature Range</b> operating	(at nominal coil voltage) -40°C (-40°F) to 85°C (185°F)
<b>Vibration resistance</b> <b>Shock resistance</b>	1.5 mm (0.062") DA at 10–55 Hz 10 g
<b>Enclosure</b> <b>Terminals</b>	P.B.T. polyester Tinned copper alloy, P. C.
<b>Soldering</b> max. temperature max. time	270 °C (518°F) 5 seconds
<b>Cleaning</b> max. solvent temp. max. immersion time	80°C (176°F) 30 seconds
<b>Dimensions</b> length width height (standard version) height (low profile)	 38.0 mm (1.496") 33.0 mm (1.300") 43.0 mm (1.693") 41.5 mm (1.634")
<b>Weight</b>	85 grams (approx.)
<b>Packing unit in pcs</b> <b>Compliance</b>	10 per plastic tube / 150 per carton box UL 508, IEC 61810-1, RoHS, REACH

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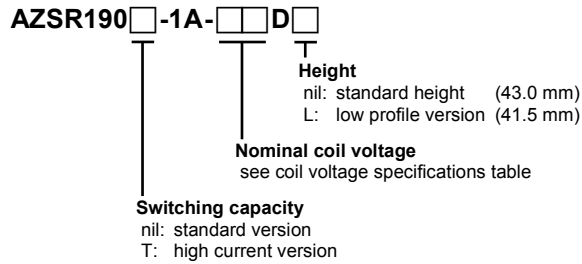
This product specification is to be used only together with the application notes which can be downloaded from [www.ZETTLERelectronics.com/pdfs/relais/ApplicationNotes.pdf](http://www.ZETTLERelectronics.com/pdfs/relais/ApplicationNotes.pdf)

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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	18.8
9	6.75	3.6	9.9	42.2
12	9.0	4.8	13.2	75.0
24	18.0	9.6	26.4	300

## ORDERING DATA



### Example ordering data

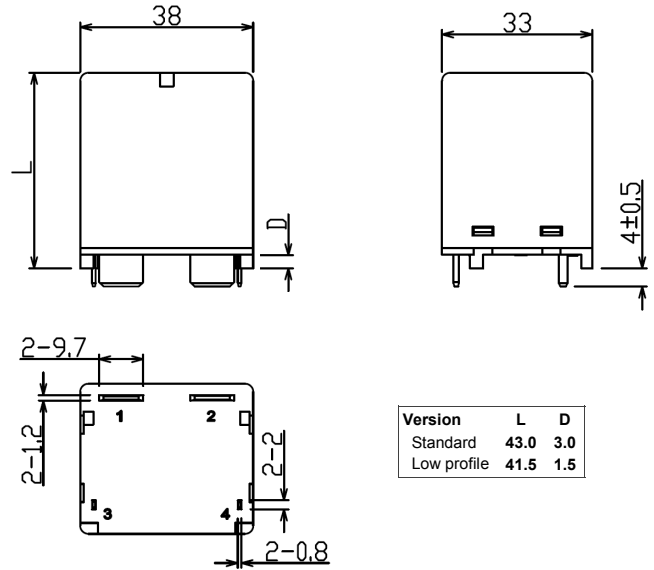
- AZSR190-1A-12D 12 VDC nominal coil voltage, standard height  
 AZSR190T-1A-12D High current version, 12 VDC nom. coil voltage  
 AZSR190-1A-9DL 9 VDC nominal coil voltage, low profile version

## NOTES

- All values at 20°C (68°F).
- Relay may pull in with less than "Must Operate" value.
- Provide sufficient PCB cross section on load terminals. Recommended cross section according to IEC 61810-1:2015: 35 mm<sup>2</sup>
- Specifications subject to change without notice.

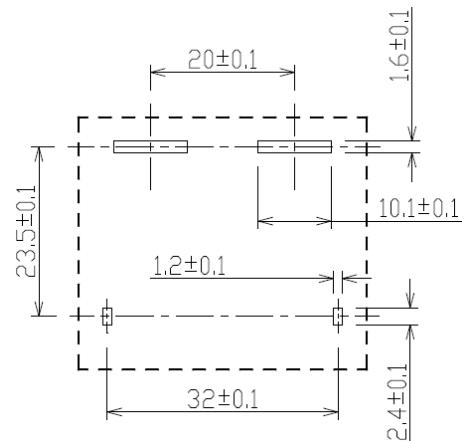
## MECHANICAL DATA

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



## PC BOARD LAYOUT

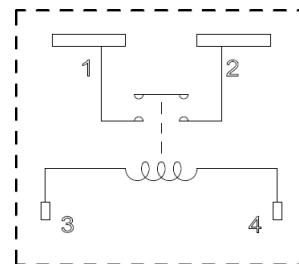
Dimensions in mm. Tolerance:  $\pm 0.1$  mm unless otherwise stated  
 Viewed towards terminals.



## WIRING DIAGRAMS

Viewed towards terminals.

Note: Provide sufficient PCB cross section on load terminals. Recommended cross section according to IEC 61810-1: 35 mm<sup>2</sup>.



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