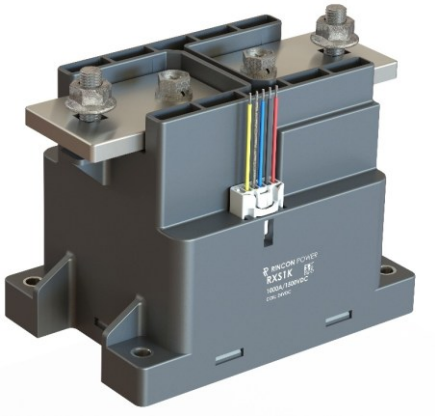
RINCONPOWER®
Products For An Electrified Future

# RXS1K SERIES

## High Voltage Contactors

**1000A** CONTINUOUS DUTY

**1500VDC** SYSTEM VOLTAGE



## DESCRIPTION

The RXS1K Series are hermetically sealed high voltage DC contactors designed for high-current DC power switching in demanding, space-constrained systems. Rated for continuous currents up to 1000A and system voltages up to 1500VDC, the RXS1K Series features bi-directional main contacts and mechanically linked SPDT auxiliary contacts for accurate position feedback. The hermetic ceramic seal with gas fill provides exceptional protection against moisture, dust, and contaminants.

Built in a compact rectangular form factor, the RXS1K Series offers performance approaching the RXR1K MegaTactor Series while enabling easier integration in space-limited enclosures. These contactors are well suited for system-level power control in large-scale energy, stationary infrastructure, and heavy-duty DC power systems where continuous current requirements do not exceed 1000A.

## FEATURES

**SPST Normally Open High Voltage DC Contactor**

- Hermetic ceramic seal with gas fill for superior carry and switching performance
- Bi-directional DC power switching
- Mechanically linked SPDT auxiliary contacts for accurate main contact position feedback
- Integrated coil economizer for optimized power consumption
- RoHS and REACH compliant
- UL 60947-4 pending

## TYPICAL APPLICATIONS

- Large-scale battery energy storage systems (BESS)
- Stationary energy storage and power conversion systems
- High-density data center DC backup power systems
- Grid-connected DC power distribution
- Utility-scale renewable energy systems
- High-power industrial DC power control
- Space-constrained system-level DC switching applications

**For factory-direct technical support and application assistance:**
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Visit https://www.rinconpower.com/contact-us

## PERFORMANCE

### TABLE 1. SPECIFICATIONS

| CHARACTERISTIC | MEASURE | | |
|---|---|---|---|
| Contact Arrangement | Form X, SPST- NO | | |
| Max Switching Voltage[1] | 1,500 VDC | | |
| Dielectric Withstand Voltage (Leakage <1mA) Between Open Contacts | 5,400 VRMS | | |
| Dielectric Withstand Voltage (Leakage <1mA) Between Contacts to Coil | 5,400 VRMS | | |
| Mechanical Life | 500,000 cycles | | |
| Continuous Current (600mm$^2$ conductor)[2,3] | 1000A | | |
| Overload Current 90 seconds | 2,000A | | |
| 15 seconds | 3,500A | | |
| Short Circuit Withstanding 2 milliseconds | 10,000A | | |
| Make and Break | See Table 2 | | |
| Min Insulation Resistance | 100 Mohm @ 1,000V (50 Mohm at end of life) | | |
| Contact Resistance (Max) measured at 1,000A | 0.15 mOhm | | |
| Operate Time (Max, incl bounce) | 90ms | | |
| Release Time (Max) | 30ms | | |
| Shock - Functional, 1/2 Sine, 11ms | 10 G Peak | | |
| Vibration, Sinusoidal (500-2000 Hz Peak) | 6G | | |
| Operating Temperature | -40˚C to 85˚C (180° max terminal temperature) | | |
| Sealed Contacts | Exceeds IP69K (hermetically sealed) | | |
| Salt Fog | MIL-STD-810 | | |
| **AUXILIARY CONTACTS** | **MEASURE** | | |
| Contact Arrangement | SPDT (Normally Open + Normally Closed) | | |
| Continuous Current | 2A / 24 VDC | | |
| Minimum Current | 10mA @ 8V | | |
| **COIL (20°C)** | **MEASURE** | | |
| Nominal Voltage | 12VDC | 24VDC | 48VDC |
| Max Voltage[4] | 16V | 32V | 64V |
| Pick-up Voltage[5,6], Max | 9V | 18V | 36V |
| Drop-out Voltage[6] | >1.2V | >2.4V | >4.8V |
| Coil Current (pick-up)[5] – max 300ms | 4.2A | 2.1A | 1.1A |
| Coil Current (hold) - continuous | 0.9A | 0.45A | 0.22A |
| Coil Power (hold)[5] | 10W | 10W | 10W |
| Coil Back EMF (coil suppressed via TVS SMAJ48CA) | 55V | 55V | 55V |

### TABLE 2. RESISTIVE LOAD SWITCHING (MAKE / BREAK )

| BI-DIRECTIONAL | | CYCLES 1 cycle = 1 make + 1 break |
|---|---|---|
| VOLTAGE | CURRENT | |
| 400V | 5,000A | 5 (BREAK ONLY) |
| 1,000V | 600A | 5,000 |
| 1,000V | 800A | 500 (BREAK ONLY) |
| 1,000V | 3,000 | 3 (BREAK ONLY) |
| 1,200V | 500A | 5,000 |
| 1,500V | 800A | 200 (BREAK only) |
| 1,500V | 1,000A | 50 (BREAK only) |

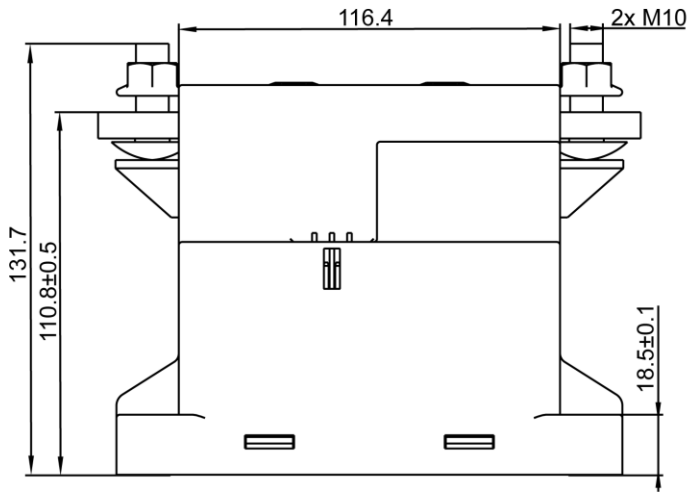
## OPTIONS

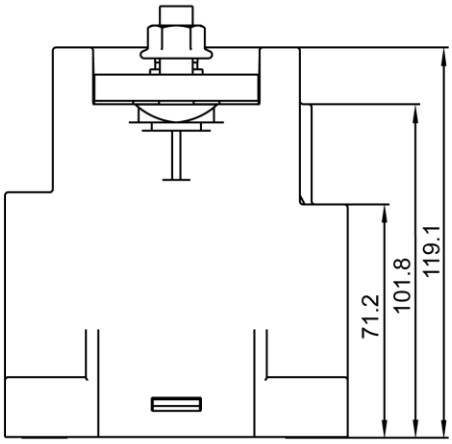
**TABLE 3. PART NUMBER CONFIGURATION**

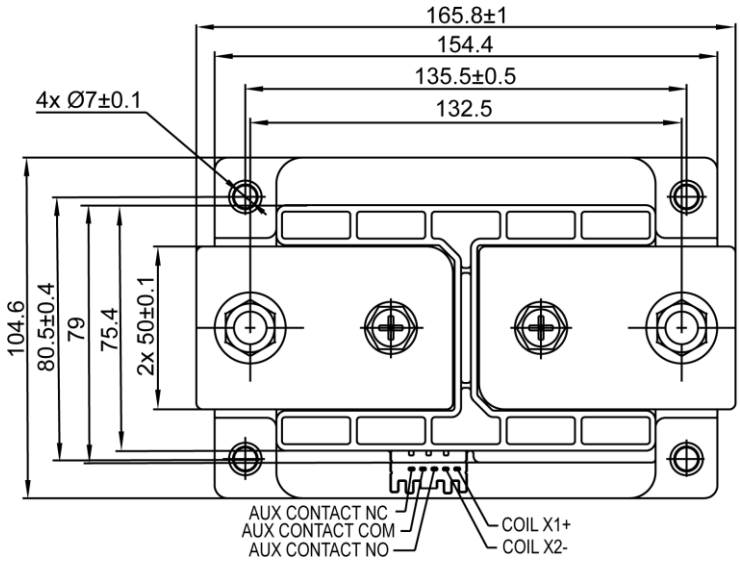
| SERIES | CONTACT POLARITY | MOUNTING | COIL | AUXILIARY CONTACTS |
|---|---|---|---|---|
| RXS1K | **B** Bi-directional | **1** Bottom Mount | **P** 12VDC dual coil | **C** SPDT, NO+NC |
| | | | **Q** 24VDC dual coil | |
| | | | **R** 48VDC dual coil | |

**Available Part Numbers:** RXS1KB1PC, RXS1KB1QC, RXS1KB1RC

## PRODUCT DIMENSIONS [mm]



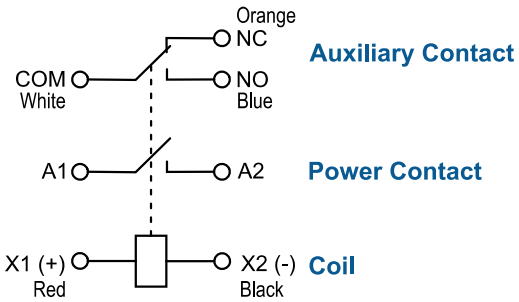




**3D model available upon request**

**TABLE 4. DIMS AND INSTALLATION**

| CHARACTERISTIC | MEASURE |
|---|---|
| Weight | 7.1 lb, [3,230g] |
| Coil Connection | Wires, 20AWG, 30cm length, UL3266 |
| Housing Material | Zytel FR50 |
| Busbar | Copper, Nickel plated |
| Mounting Position | Any / Not Position Sensitive |
| Package Quantity | 3 per box |
| Mounting Install Torque, 4 x M6 | 50-65 in-lb, [6-8Nm] |



## NOTES

1. Contactor may be used above Max Switching Voltage if the application does not require significant load breaking. Please contact Rincon Power to discuss in more detail.
2. Attach cables and busbars directly to the main terminal pad. Do not use washers or other materials between the contactor power terminals and the conductor.
3. Continuous current tested with 85°C temperature rise at the power terminals. Terminal temperature should be limited to 180°C
4. Contactor is operated by a coil that changes resistance with temperature: Maximum coil voltage will be lower than indicated at temperatures above 25°C, and higher than indicated at temperatures below 25°C.
5. Nominal Coil Voltage for Pick-up Current, Coil Current and Coil Power specifications, Current/Wattage will be lower than indicated at temperatures above 25°C and higher than indicated at temperatures below 25°C.
6. Pick-up Voltage and Drop Out Voltage will be lower than indicated at temperatures below 25°C and higher than indicated at temperatures above 25°C.