

RXR1K SERIES

High Voltage Contactors

1200A CONTINUOUS
DUTY

1500VDC SYSTEM
VOLTAGE



DESCRIPTION

The RXR1K MegaTactor Series are hermetically sealed high voltage DC contactors designed for ultra-high-current power switching in the most demanding DC power systems. Rated for continuous currents up to 1200A and system voltages up to 1500VDC, the RXR1K Series delivers robust, bi-directional DC switching performance for mission-critical applications. Integrated coil economization and mechanically linked auxiliary contacts support efficient operation and reliable position feedback, while the hermetic ceramic seal with gas fill protects internal components from moisture, dust, and contaminants.

Designed in a proven rectangular form factor commonly used for system-level DC power control, the RXR1K Series is well suited for large-scale energy, stationary infrastructure, and heavy-duty DC power systems requiring maximum current capability, long-term reliability, and drop-in compatibility with established rectangular contactor platforms.

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 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
- Ultra-fast DC charging infrastructure
- High-density data center DC backup power systems
- Grid-connected DC power distribution
- Rail, marine, and heavy transportation platforms
- Utility-scale renewable energy systems
- Mission-critical DC power systems
- Load bank / high power test systems

For factory-direct technical support and application assistance:

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Email info@rinconpower.com

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	200,000 cycles		
Continuous Current (600mm ² conductor) ^{2, 3}	1,200A (or 1,000A using 480mm ² conductor)		
Overload Current	2,000A		
90 seconds	4,000A		
18 seconds	10,000A		
Short Circuit Withstanding	2 milliseconds		
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	20 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 (BREAK ONLY)
1,000V	800A	1,000 (BREAK ONLY)
1,000V	2,500A	2 (BREAK ONLY)
1,200V	500A	5,000 (BREAK ONLY)
1,500V	300A	6,000
1,500V	1,000A	200 (BREAK ONLY)
2,500V	1,000A	30 (BREAK ONLY)

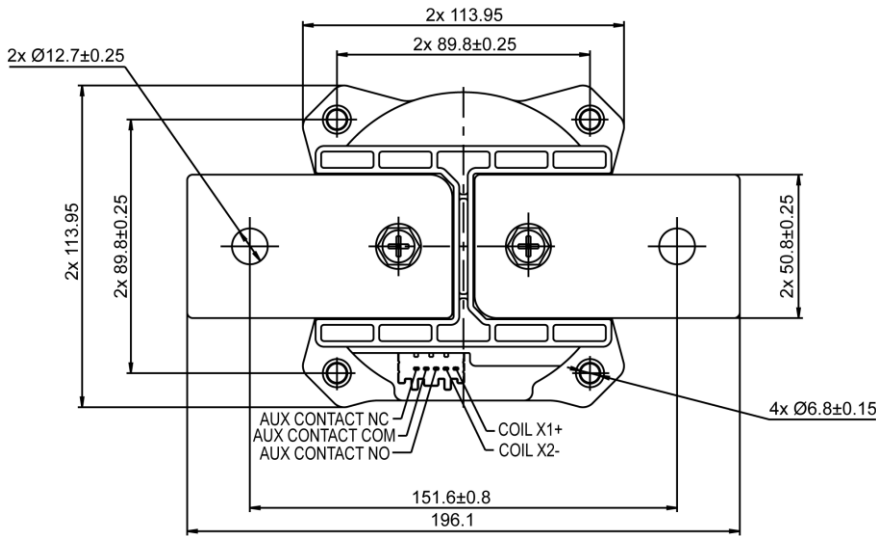
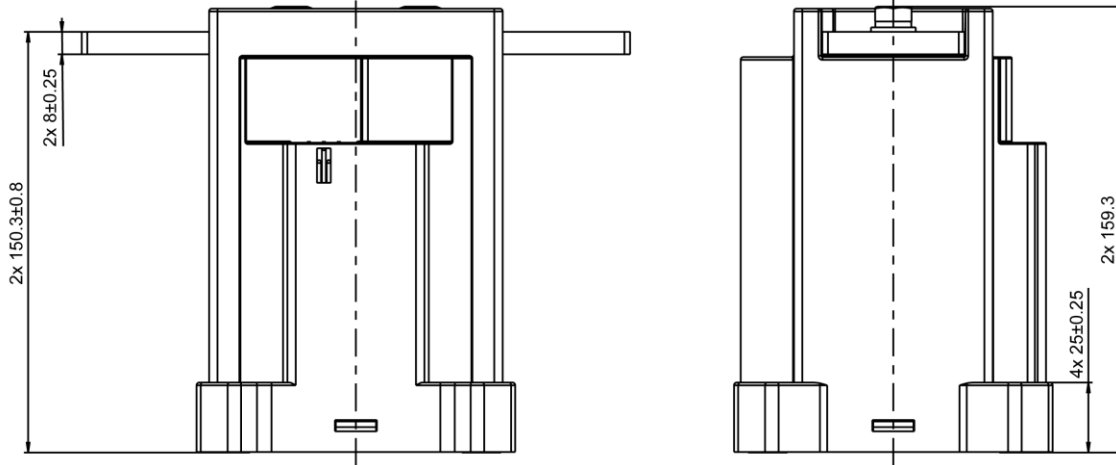
OPTIONS

TABLE 3. PART NUMBER CONFIGURATION

SERIES	CONTACT POLARITY	MOUNTING	COIL	AUXILIARY CONTACTS
RXR1K	B Bi-directional	1 Bottom Mount	P 12VDC dual coil	C SPDT, NO+NC
			Q 24VDC dual coil	X none
			R 48VDC dual coil	

Available Part Numbers: RXR1KB1PC, RXR1KB1PX, RXR1KB1QC, RXR1KB1QX, RXR1KB1RC, RXR1KB1RX

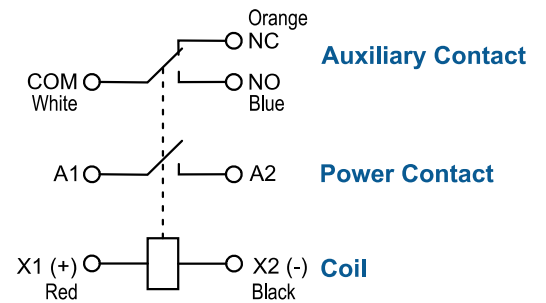
PRODUCT DIMENSIONS [mm]



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 or No. 10 60-75 in-lb, [7-9Nm]



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.

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<https://tcs.rinconpower.com/product-datasheet-legal-disclaimer.pdf>