

# REC50 SERIES

## High Voltage Contactors

**500A** CONTINUOUS  
DUTY

**1500VDC** SYSTEM  
VOLTAGE



### DESCRIPTION

The REC50 Series are epoxy-sealed high voltage DC contactors designed for mainstream DC power switching applications where cost, availability, and proven form factors are important. Rated for continuous currents up to 500A and system voltages up to 1500VDC, the REC50 Series provides reliable bi-directional switching with integrated coil economizer and auxiliary contact options for main contact position feedback. The epoxy seal with gas fill provides hermetic protection suitable for standard operating environments.

Well suited for OEM and production use, the REC50 Series offers dependable performance across a range of DC power control systems, including battery energy storage, charging infrastructure subsystems, industrial DC power distribution, and related applications where balanced performance and value are prioritized.

### FEATURES

#### SPST Normally Open High Voltage DC Contactor

- Epoxy-sealed hermetic construction for reliable DC switching
- Bi-directional DC power switching<sup>1</sup>
- Mechanically linked auxiliary contacts for position feedback
- Integrated coil economizer to reduce holding power
- SPST Normally Open contact arrangement
- Meets RoHS 2011/65/EU and REACH compliance
- UL recognized component (File E536110)

### TYPICAL APPLICATIONS

- Battery energy storage systems (BESS)
- DC charging infrastructure subsystems
- Industrial equipment and machinery
- Auxiliary DC power switching
- Electric vehicle power subsystems
- Material handling and utilities
- Renewable energy DC power conversion
- General OEM DC control circuits

#### For factory-direct technical support and application assistance:

Call +1 805 456 6424

Email [info@rinconpower.com](mailto: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 <sup>2</sup>	1,500 VDC
Dielectric Withstand Voltage Across Open Contacts	4,500 VAC, 1 minute
	4,500 VDC, 1 minute
Continuous Current (250mm <sup>2</sup> conductor) <sup>3</sup>	500A
Overload Current	1,000A
	2,000A
Make and Break	See table 2
Min Insulation Resistance	1,000 Mohm @ 1,000V
Contact Voltage Drop (Max)	50mV @ 100A
Operate Time (Max, incl bounce)	40ms
Release Time (Max)	12ms
Shock - Functional, 1/2 Sine, 11ms	20G
Shock - Destructive, 1/2 Sine, 11ms	50G
Operating Temperature	-40°C to 85°C
Ingress Protection	Exceeds IP69, (Hermetically sealed)
Mechanical life	200,000
AUXILIARY CONTACTS	MEASURE
Contact Arrangement	SPST
Continuous Current	3A
Minimum Current	5mA @ 8V
COIL	MEASURE
Nominal Voltage <sup>4</sup>	12-36 VDC
Pick-up Voltage (Max)	9 VDC
Drop-out Voltage (Min)	5 VDC
Inrush Current (Max)	3.8A
Holding Current	0.34A @ 12 VDC 0.16A @ 24 VDC

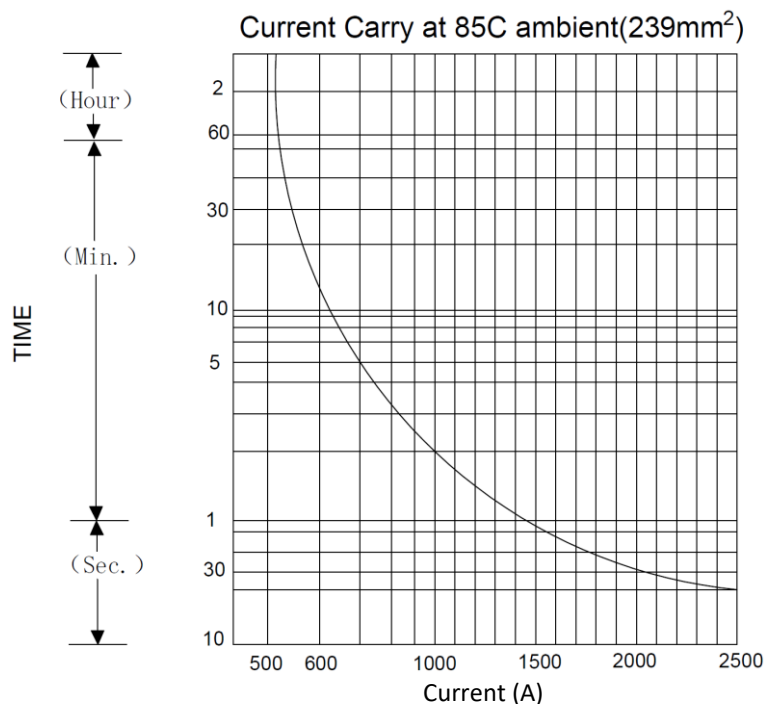


TABLE 2. RESISTIVE LOAD SWITCHING (MAKE / BREAK DATA)

BI-DIRECTIONAL <sup>1</sup>		CYCLES 1 cycle = 1 make + 1 break
VOLTAGE	CURRENT	
750V	500A	1,000
1500V	200A	1,000
1000V	1000A	BREAK only – 1 cycle

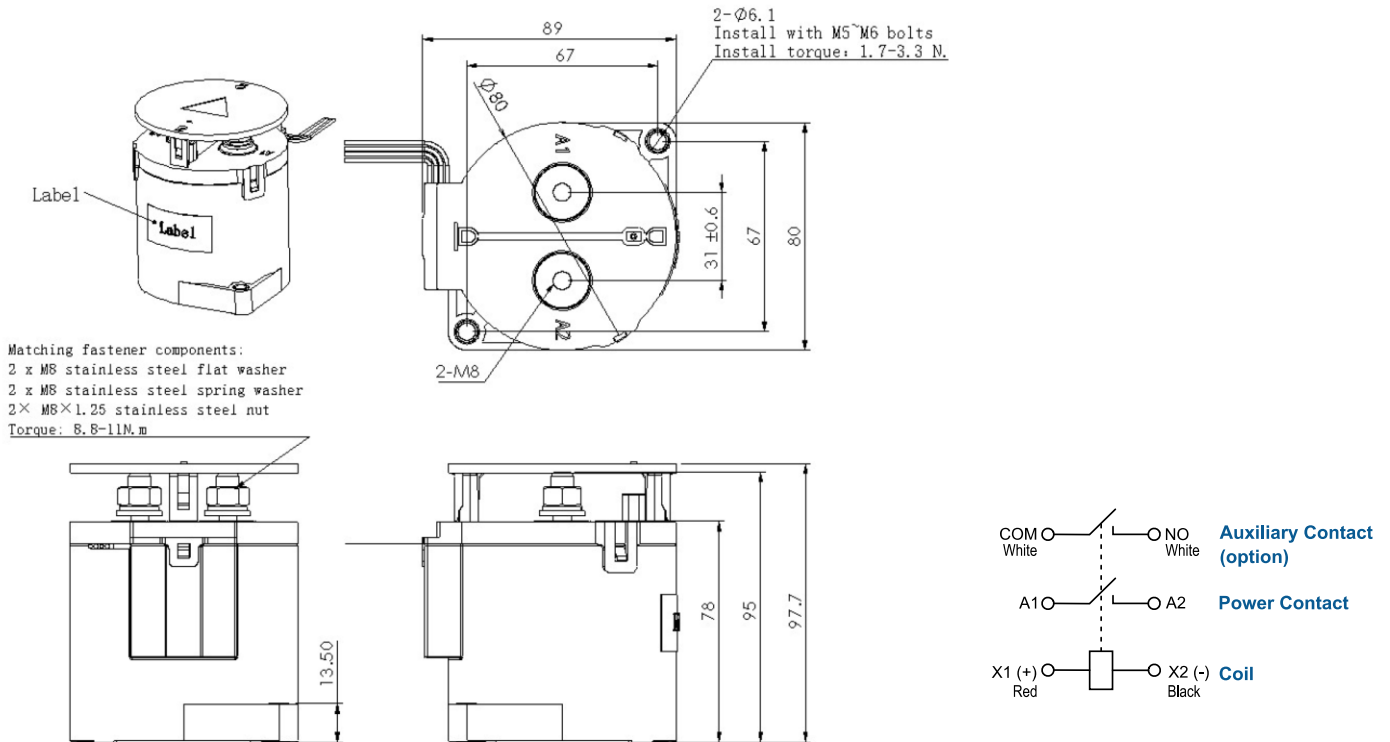
OPTIONS

TABLE 3. PART NUMBER CONFIGURATION

SERIES	CONTACT POLARITY	MOUNTING	COIL	AUXILIARY CONTACTS
REC50	B Bi-directional <sup>1</sup>	1 Bottom Mount	J 12-36V internal PWM	A SPST, Normally Open

Available Part Numbers: REC50B1JA

PRODUCT DIMENSIONS [mm]



3D model available upon request

TABLE 4. DIMENSIONAL AND INSTALLATION	
CHARACTERISTIC	MEASURE
Weight	1180g (2.6 lb)
Mounting Position	Any / Not Position Sensitive
Package Quantity	8 each
Install Torque M8 Main Terminals <sup>3</sup>	9-11Nm (80-97 in-lb)

NOTES

1. Polarity Sensitive versions are marked +A1 and -A2 for the power terminals. For applications that require the contactor under load, please ensure current is flowing from the +A1 to the -A2 terminal when breaking/opening under load. For Bi-Directional versions the direction of current does not matter when breaking under load.
2. 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.
3. Attached cables and busbars directly to the main terminal pad using the recommended install torque. Do not use washers or other materials between the contactor and the conductor. This will ensure the lowest possible contact resistance.
4. Avoid excessive coil voltages. Exceeding the ratings on the datasheet may result in high coil temperature and coil failure.

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