RER02P5 SERIES

High Voltage Contactors

40A CONTINUOUS DUTY

1000VDC SYSTEM VOLTAGE

DESCRIPTION

The RER02P5 Series are compact high voltage DC relays designed for pre-charge and auxiliary DC control applications requiring a specific mechanical form factor. Based on the proven RER02 electrical platform, the RER02P5 Series provides a cost-effective solution for systems where full performance specifications of higher-end pre-charge relays are not required.

With sealed construction and a compact footprint, the RER02P5 Series is well suited for controlled capacitor charging, DC bus discharge, and auxiliary DC switching in electric vehicles, energy storage systems, and industrial equipment. These relays offer a practical balance of form-factor compatibility, reliability, and value.

FEATURES

SPST Normally Open High Voltage DC Contactor

- Compact sealed DC relay construction
- Form-factor compatible mechanical layout
- Optimized for pre-charge and auxiliary DC switching
- Cost-effective alternative for compatible designs
- Low power coil options available
- Fast operate and release times
- Suitable for capacitive charging and discharge circuits
- RoHS and REACH compliant
- **Designed and Assembled in the USA**

TYPICAL APPLICATIONS

- Pre-charge circuits in inverter-based systems
- Capacitor charging and controlled discharge networks
- Electric vehicle power electronics
- Industrial DC control and auxiliary switching
- Form-factor compatible pre-charge applications
- Auxiliary DC power switching

For factory-direct technical support and application assistance:
Call +1 805 456 6424
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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]	1000 VDC	
Dielectric Withstand Voltage (Max Leakage Current: 1mA)	3,000 VAC, 1 minute contacts to coil	
	3,000 VAC, 1 minute across open contacts	
Continuous Current (4mm^2 conductor)[2,3]	20A	
(13mm^2 conductor)	40A	
Overload Current 30 seconds	80A	
1 hour	30A	
Max Break – 30A @ 450V	5 cycles	
Max Short Circuit Current -0.5 second	200 A	
Min Insulation Resistance	1,000 MΩ @ 500VDC	
Contact Resistance (Max)	5.0 mΩ	
(Typical)	3.5 mΩ	
Operate Time (Max, incl bounce)	30ms	
Release Time (Max)	10ms	
Shock - Functional, 1/2 Sine, 11ms	20G	
Shock – Destructive, 1/2 Sine, 11ms	50G	
Operating Temperature	-40˚C to 85˚C	
Ingress Protection	IP67,	
Mechanical life	1,000,000 cycles	
AUXILIARY CONTACTS	**MEASURE**	
Contact Arrangement	Not available	
COIL (20° C)[4]	**MEASURE**	
Nominal Voltage[5]	12 VDC	24 VDC
Pick-up Voltage (Max)[6]	9 VDC	18 VDC
Drop-out Voltage (Min)[6]	0.8 VDC	1.6 VDC
Coil Resistance	48Ω	192Ω
Coil Power at Nominal Voltage[7]	3W	3W

Current Carry 20A / 4mm^2, 40A / 13mm^2 (85°C Ambient)

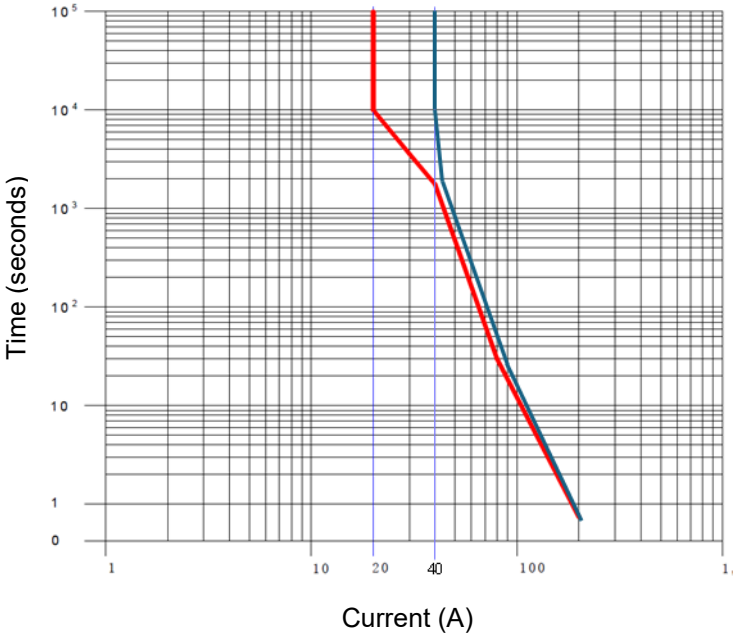


TABLE 2. RESISTIVE LOAD SWITCHING (MAKE / BREAK DATA)

POLARITY SENSITIVE VERSION		CYCLES 1 cycle = 1 make + 1 break
VOLTAGE	CURRENT	
450V	20A	5,000
450V	10A	10,000
450V	20A	75,000 (MAKE ONLY)
450V	30A	50,000 (MAKE ONLY)
800V	15A	50,000 (MAKE ONLY)
1000V	10A	30,000 (MAKE ONLY)
1000V	10A	250 (BREAK ONLY)

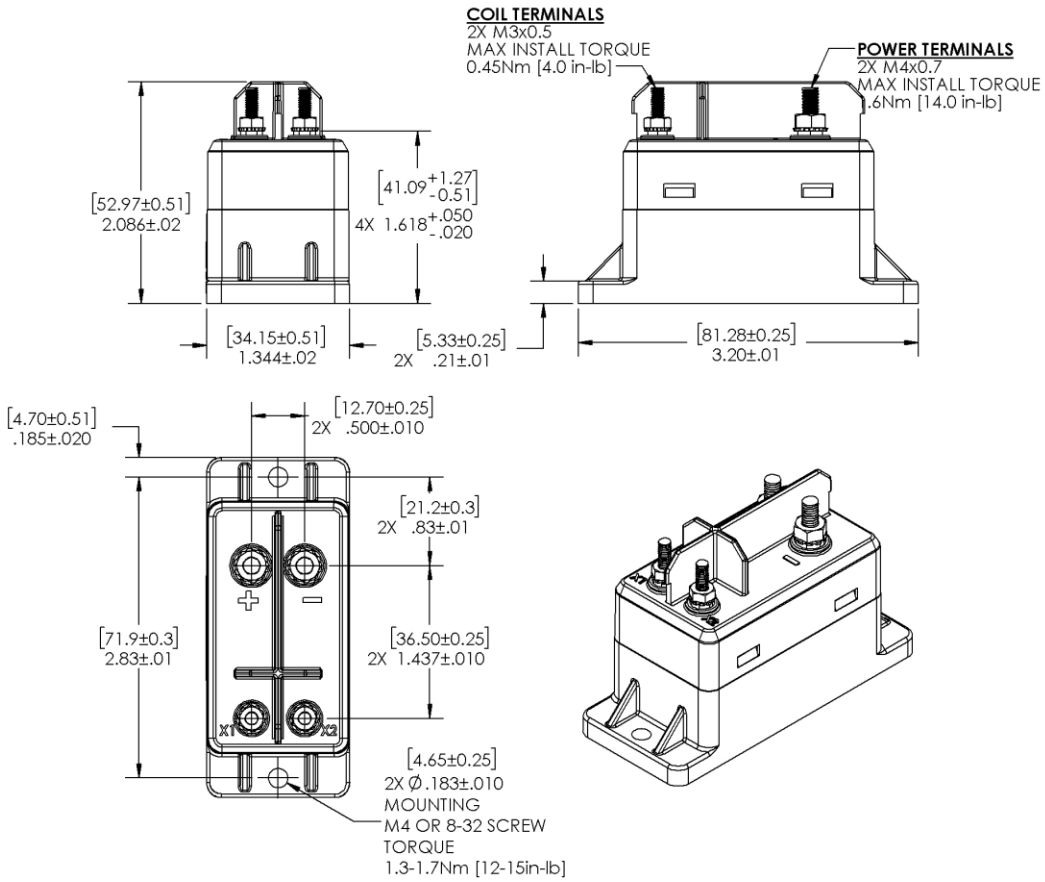
OPTIONS

TABLE 3. PART NUMBER CONFIGURATION

SERIES	CONTACT POLARITY	MOUNTING	COIL	AUXILIARY CONTACTS
RER02	**P** Polarity Sensitive	**5** Stud Terminal Package	**A** 12V **B** 24V	**X** None

Available Part Numbers: RER02P5AX, RER02P5BX

PRODUCT DIMENSIONS [mm]



3D model available upon request

Power Contacts

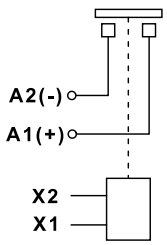


TABLE 4. DIMENSIONAL AND INSTALLATION

CHARACTERISTIC	MEASURE
Weight	105g Stud Terminal Version
Mounting Position	Any / Not Position Sensitive
Package Quantity	20

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 150°C.
4. Coil terminals are non-polar.
5. 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.
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.
7. 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.