REC45 SERIES

High Voltage Contactors

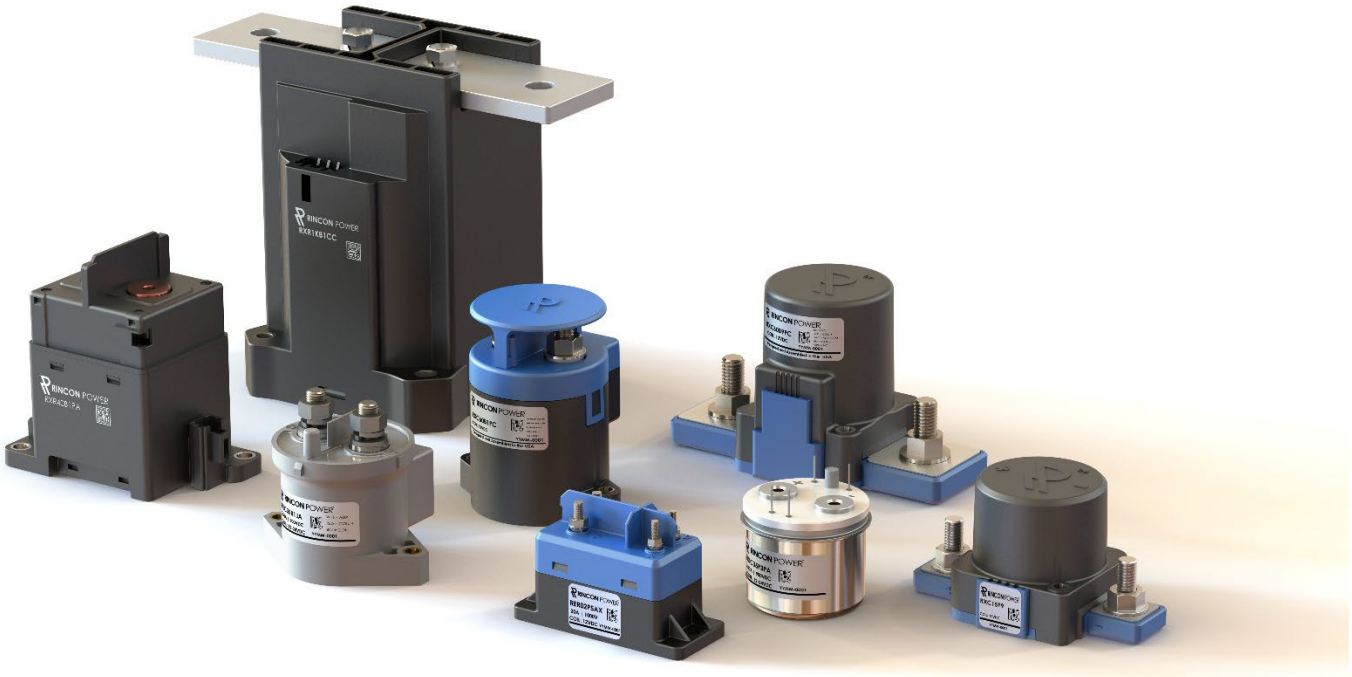
500A CONTINUOUS DUTY

1000V SYSTEM VOLTAGE

FEATURES

SPST Normally Open High Voltage Contactors

- Hermetic seal with gas fill
- Optional auxiliary contacts – for main position feedback
- Integrated coil economizer to reduce coil holding power
- Meets RoHS 2011/65/EU
- CE certified
- UL recognized (File E536110).
- Please refer to UL file for specific part numbers that are recognized



PERFORMANCE

TABLE 1. SPECIFICATIONS			
CHARACTERISTIC	**MEASURE**		
Contact Arrangement	Form X, SPST NO		
Max Switching Voltage	1,000 VDC		
Dielectric Withstand Voltage Contacts to Coil Dielectric Withstand Voltage Across Open Contacts	4,300 VDC, 1 minute 4,300 VDC, 1 minute		
Continuous Current (2 x 127mm^2 conductor)	500A		
Overload Current 1 minute 5 Minutes	1,000A 650A		
Make and Break	See table		
Max Short Circuit Current -1 second	3,000 A		
Min Insulation Resistance	1,000 MΩ @ 1,000VDC		
Contact Resistance	0.25mΩ (max) / 0.15mohm (typical) at 300A		
Operate Time (Max, incl bounce)	25ms		
Release Time (Max)	10ms (max) / 5ms (typical)		
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	500,000		
AUXILIARY CONTACTS	**MEASURE**		
Contact Arrangement	SPST		
Continuous Current	2A		
Minimum Current	1mA @ 12V		
COIL (all data at 20°C ambient)	J	A	B
Coil Type	PWM (economized)	Single (continuous duty)	Single (continuous duty)
Nominal Voltage	9-36 VDC	12V	24V
Pick-up Voltage (Max)	9 VDC	9 VDC	18 VDC
Drop-out Voltage (Min)	6 VDC	1.2 VDC	2.4 VDC
Inrush Current (Max), 130ms max duration	3.8A	0.5A	0.25A
Coil Resistance	3.2Ω	24 Ω +/- 7%	96 Ω +/- 7%
Holding Current	0.17A @ 12 VDC	0.50A @ 12 VDC	0.25A @ 24 VDC

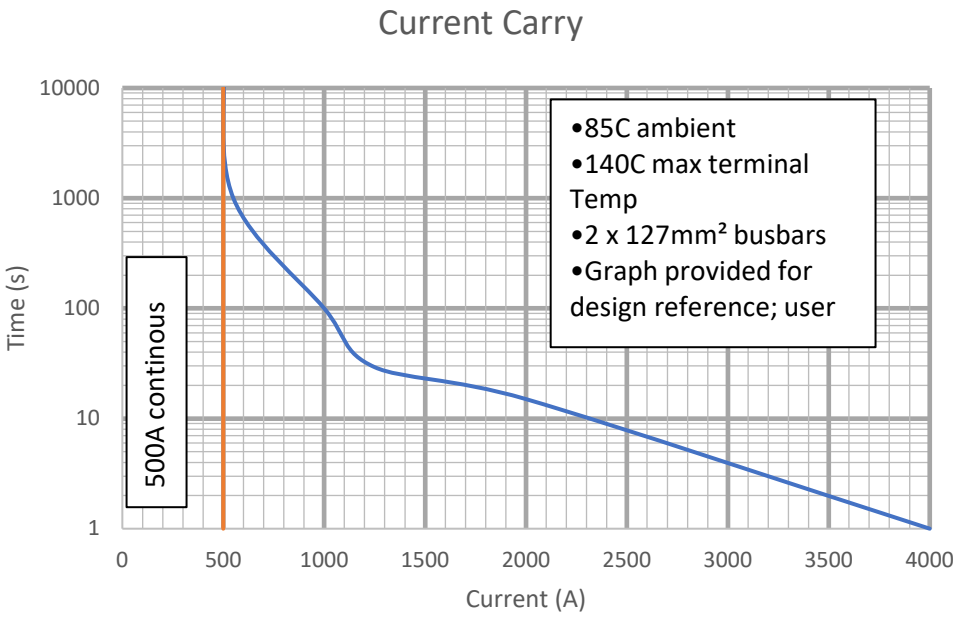


TABLE 2. RESISTIVE LOAD SWITCHING (MAKE / BREAK DATA)		
VOLTAGE	**CURRENT**	**CYCLES**
450V	250A	10,000
800V	300A	4000 (BREAK ONLY)
800V	200A	10,000
1000V	100A	10,000

OPTIONS

TABLE 3. PRODUCT NOMENCLATURE

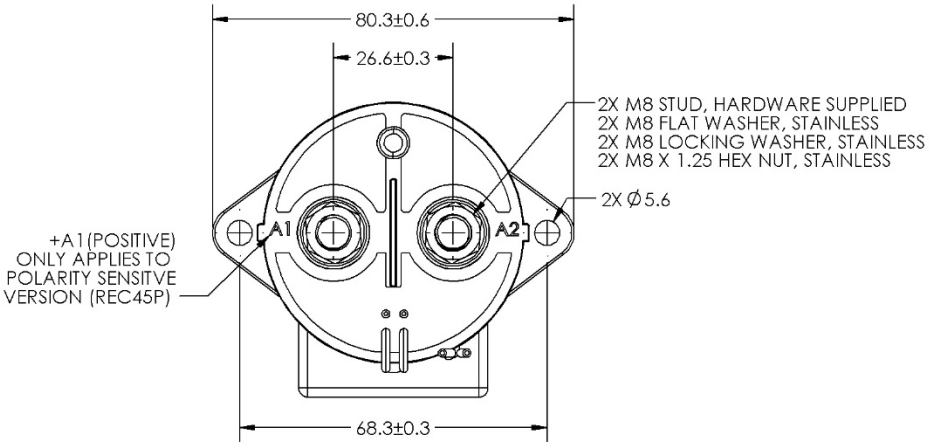
	CONTACT POLARITY	MOUNTING	COIL	AUXILIARY CONTACTS
REC45	**B** Bi-directional	**1** Bottom mount, M8 external	**J** 9-36V integrated PWM	**X** None
			A 12V single coil	**A** Normally Open
	P Polarity Sensitive	**5** Bottom, M8 internal	**B** 24V single coil	**B** Normally Closed

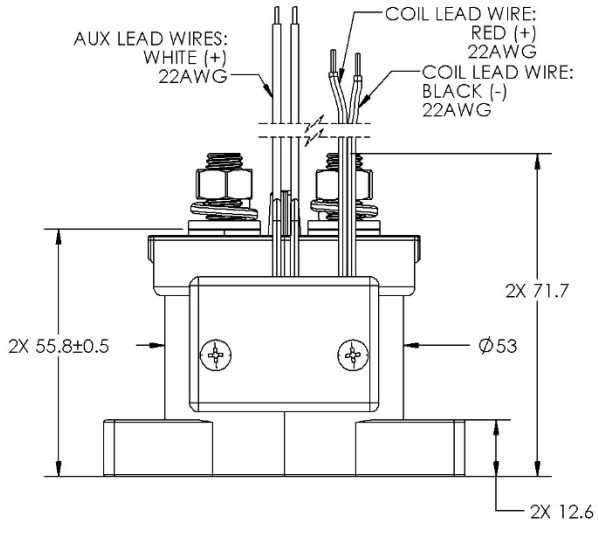
PRODUCT DIMENSIONS [mm]

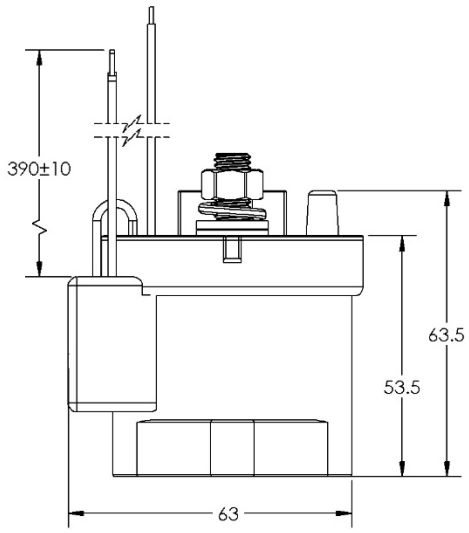
Mounting Style 1 – Bottom mount with M8 external threading

TABLE 4. DIMENSIONAL AND INSTALLATION

CHARACTERISTIC	MEASURE
Weight	≈ 385g (0.85 lb)
Mounting Position	Any / Not Position Sensitive
Package Quantity	30 pieces
Install Torque M8 Main Terminals	9-11Nm (80-97 in-lb)
M5 Mounting Inserts	2-4 Nm (17-35 in-lb)





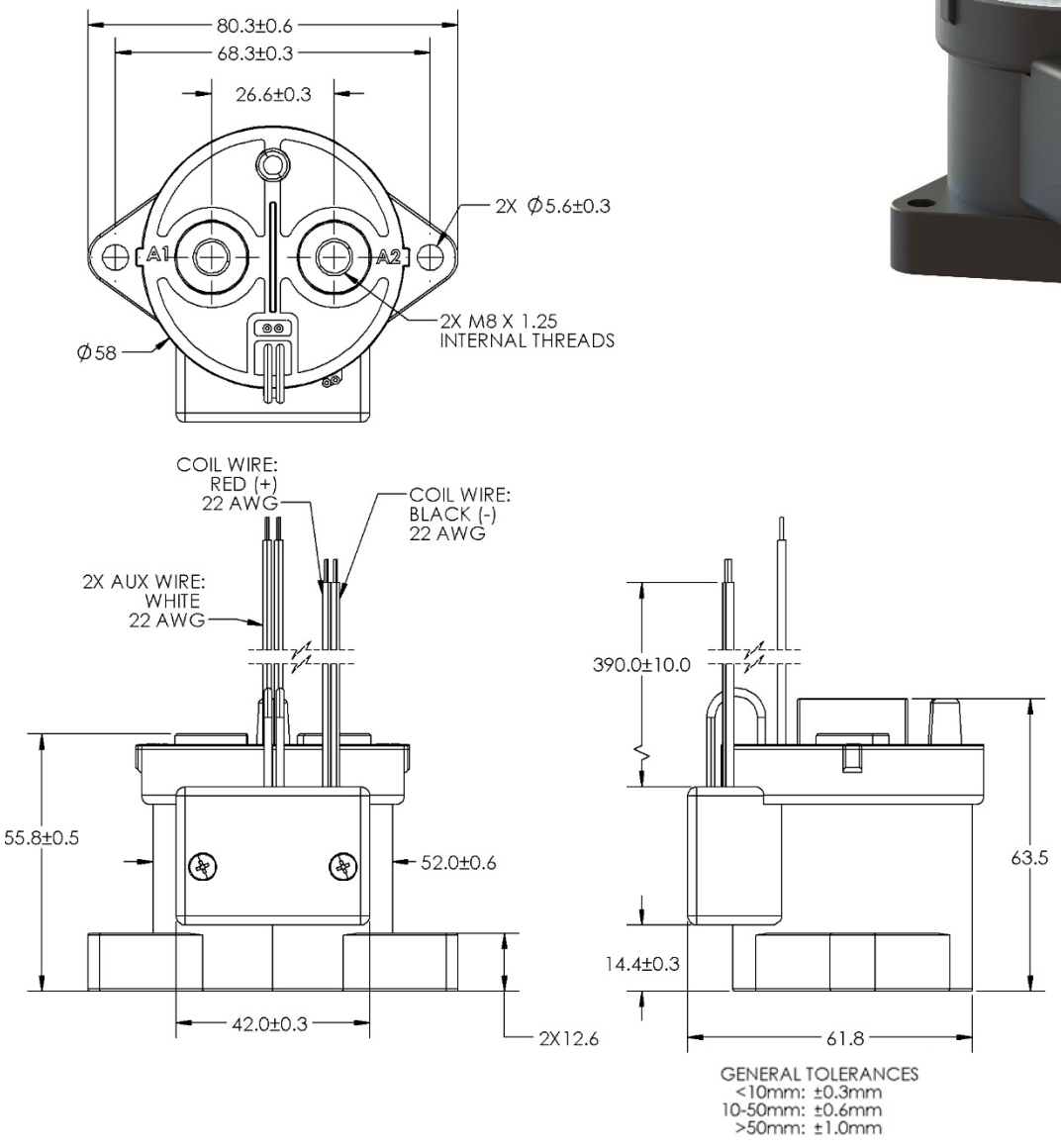


GENERAL TOLERANCES
<10mm: ±0.3mm
10-50mm: ±0.6mm
>50mm: ±1.0mm

PRODUCT DIMENSIONS [mm]

Mounting Style 5 – Bottom mount with M8 internal threading

TABLE 4. DIMENSIONAL AND INSTALLATION	
CHARACTERISTIC	**MEASURE**
Weight	≈ 385g (0.85 lb)
Mounting Position	Any / Not Position Sensitive
Package Quantity	30 pieces
Install Torque M8 Main Terminals	9-11Nm (80-97 in-lb)
M5 Mounting Inserts	2-4 Nm (17-35 in-lb)



NOTES

- Polarity Sensitive versions are marked +A1 and -A2 for the power terminals. For applications that require the contactor to open under load, please ensure current is flowing from the +A1 to the -A2 terminal. For Bi-Directional versions the direction of current does not matter when breaking under load.
- 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.
- 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.
- 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.
- Limit terminal temperature to 140C continuous
- 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.
- Avoid excessive coil voltages. Exceeding the ratings on the datasheet may result in high coil temperature and coil failure.
- 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.