

REC35 SERIES

High Voltage Contactors

500A **CONTINUOUS DUTY**

1000VDC **SYSTEM VOLTAGE**



DESCRIPTION

The REC35 Series are epoxy-sealed high voltage DC contactors designed to provide reliable, cost-effective DC power switching for a wide range of mainstream applications. Rated for continuous currents up to 500A and system voltages up to 1000VDC, the REC35 Series offers balanced electrical performance and durability while maintaining competitive pricing for production programs.

The epoxy-sealed construction provides hermetic protection suitable for standard operating environments, making these contactors a practical choice for OEM applications where value, availability, and proven form factors are prioritized. The REC35 Series is widely used across electric vehicle subsystems, humanoid robotics platforms, energy storage systems, and industrial DC power control applications.

FEATURES

SPST Normally Open High Voltage DC Contactor

- Epoxy-sealed hermetic construction for reliable DC switching
- Industry-standard cylindrical contactor form factor
- Cost-effective solution for production applications
- Optional bi-directional DC power switching¹
- Multiple coil voltage options available
- RoHS and REACH compliant
- UL recognized component (File E536110). Please refer to file for specific part numbers that are recognized

TYPICAL APPLICATIONS

- Electric vehicle battery pack and power subsystems
- Humanoid robotics power distribution
- Battery energy storage systems (BESS)
- DC charging infrastructure subsystems
- Industrial equipment and machinery
- Auxiliary DC power switching
- Renewable energy and power conversion systems
- AGV Automated Guided Vehicles

For factory-direct technical support and application assistance:

Call +1 805 456 6424

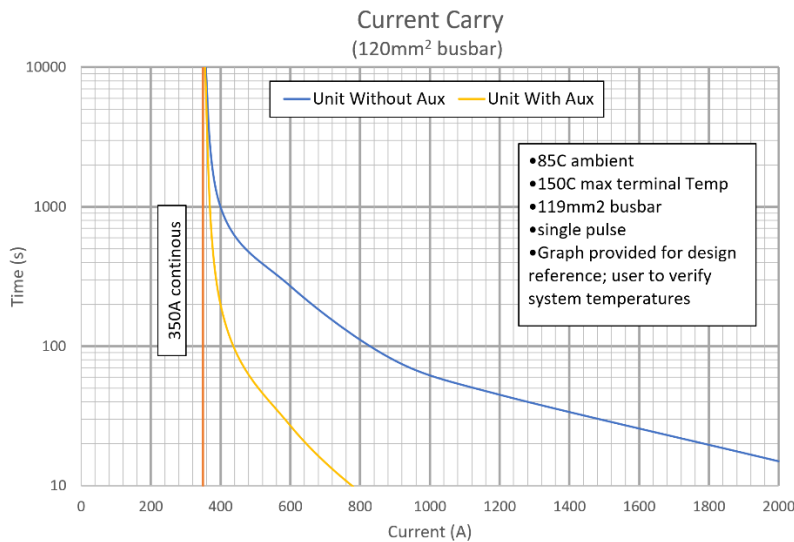
Email info@rinconpower.com

Visit <https://www.rinconpower.com/contact-us>

PERFORMANCE

TABLE 1. SPECIFICATIONS

CHARACTERISTIC	MEASURE	
Contact Arrangement	Form X, SPST NO	
Max Switching Voltage ²	900 VDC	
Dielectric Withstand Voltage Contacts to Coil	2,200 VAC, 1 minute	
Dielectric Withstand Voltage Across Open Contacts	4,000 VDC, 1 minute	
Continuous Current (2 x 127mm ² conductor) ³	500A	
Overload Current	1,000A	
	1 minute	
	5 Minutes	
Make and Break	See Table 2	
Max Short Circuit Current -1 second	3,000 A	
Min Insulation Resistance	1,000 Mohm @ 1,000V	
Contact Voltage Drop (Max)	125mV @ 250A	
Operate Time (Max, incl bounce)	25ms	
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	500,000	
AUXILIARY CONTACTS	MEASURE	
Contact Arrangement	SPST	
Continuous Current	2A	
Minimum Current	1mA @ 12V	
COIL (all data at 20°C ambient)	J, K, L COIL OPTIONS	M, N COIL OPTIONS
Nominal Voltage ^{4,5}	9-36 VDC	32-95V
Pick-up Voltage (Max) ⁶	9 VDC	32 VDC
Drop-out Voltage (Min) ⁶	6 VDC	18 VDC
Inrush Current (Max), 130ms max duration	3.8A	1.3A
Holding Current ⁷	0.17A @ 12 VDC 0.09A @ 24 VDC	0.05A @ 48 VDC



* Current carry performance is highly dependent on conductor size and ambient temperature. Below graph is an example using 120mm² conductor at 85C ambient.

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

POLARITY SENSITIVE VERSION ¹		CYCLES 1 cycle = 1 make + 1 break
VOLTAGE	CURRENT	
450V	250A	5,000
650V	250A	200
1000V	300A	1 Cycle, BREAK only
BI-DIRECTIONAL VERSION		CYCLES 1 cycle = 1 make + 1 break
VOLTAGE	CURRENT	
450V	250A	5,000
650V	250A	200

OPTIONS

Polarity Sensitive Options

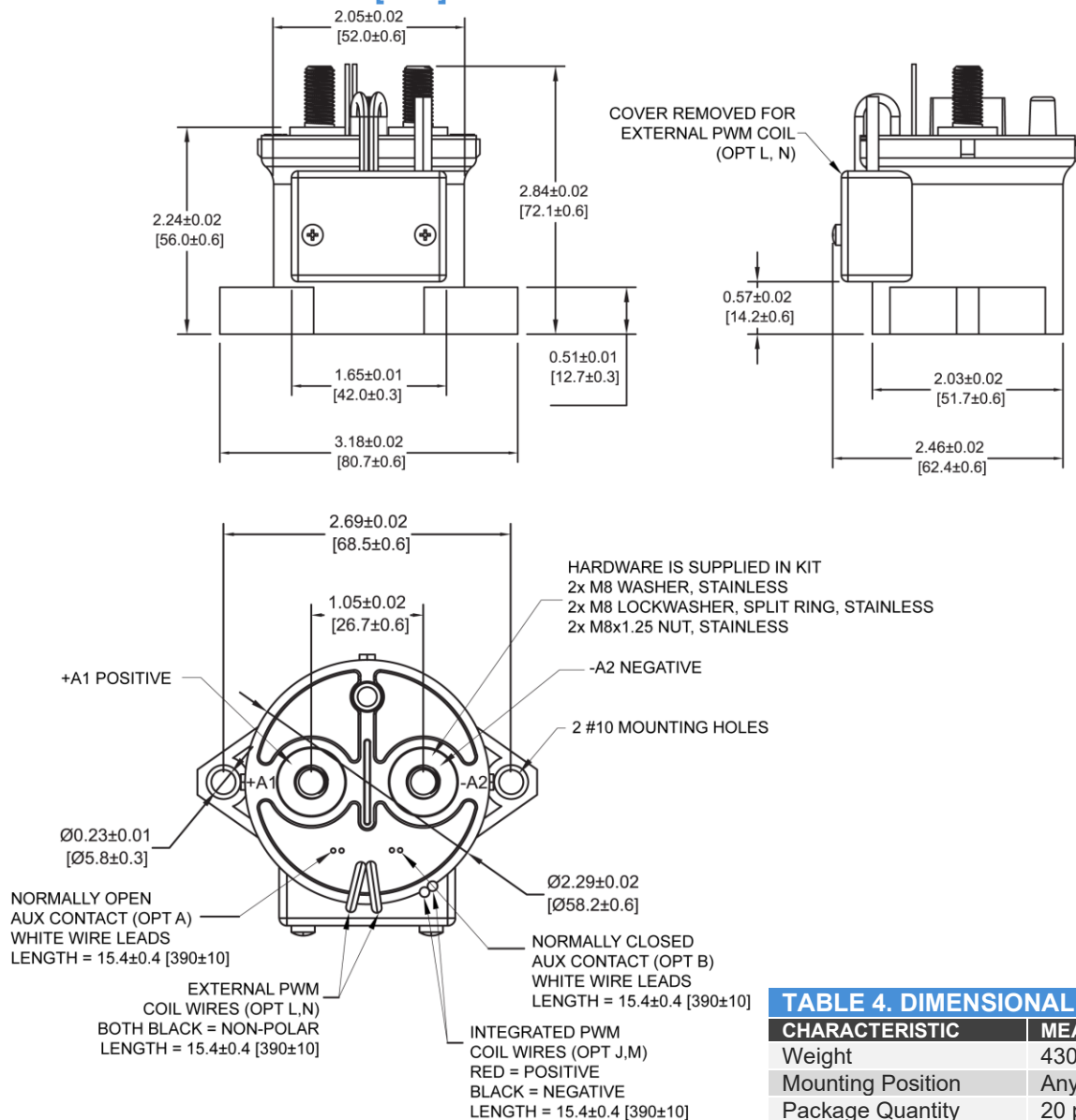
TABLE 3. PART NUMBER CONFIGURATION				
SERIES	CONTACT POLARITY	MOUNTING	COIL	AUXILIARY CONTACTS
REC35	P Polarity Sensitive ¹	1 Bottom Mount	J 9-36V integrated PWM	X None
			L 9-36V external PWM*	A Normally Open
			M 32-95V integrated PWM	B Normally Closed**
			N 32-95V external PWM*	

* Requires customer to provide PWM controls and a fast drop-out circuit for the coil. Both coil wires are black, non-polar and will exit directly from the top of the contactor. Contact us for detailed application notes.

** Normally Closed auxiliary contacts only available on polarity sensitive version

Available Part Numbers: REC35P1JX, REC35P1JA, REC35P1JB, REC35P1LX, REC35P1LA, REC35P1LB, REC35P1MX, REC35P1MA, REC35P1MB, REC35P1NX, REC35P1NA, REC35P1NB,

PRODUCT DIMENSIONS [mm]



3D model available upon request

TABLE 4. DIMENSIONAL AND INSTALLATION

CHARACTERISTIC	MEASURE
Weight	430g (0.95 lb)
Mounting Position	Any / Not Position Sensitive
Package Quantity	20 pieces
Install Torque	9-11Nm (80-97 in-lb)
M8 Main Terminals	
M5 Mounting Inserts	2-4 Nm (17-35 in-lb)

Bi-Directional Options

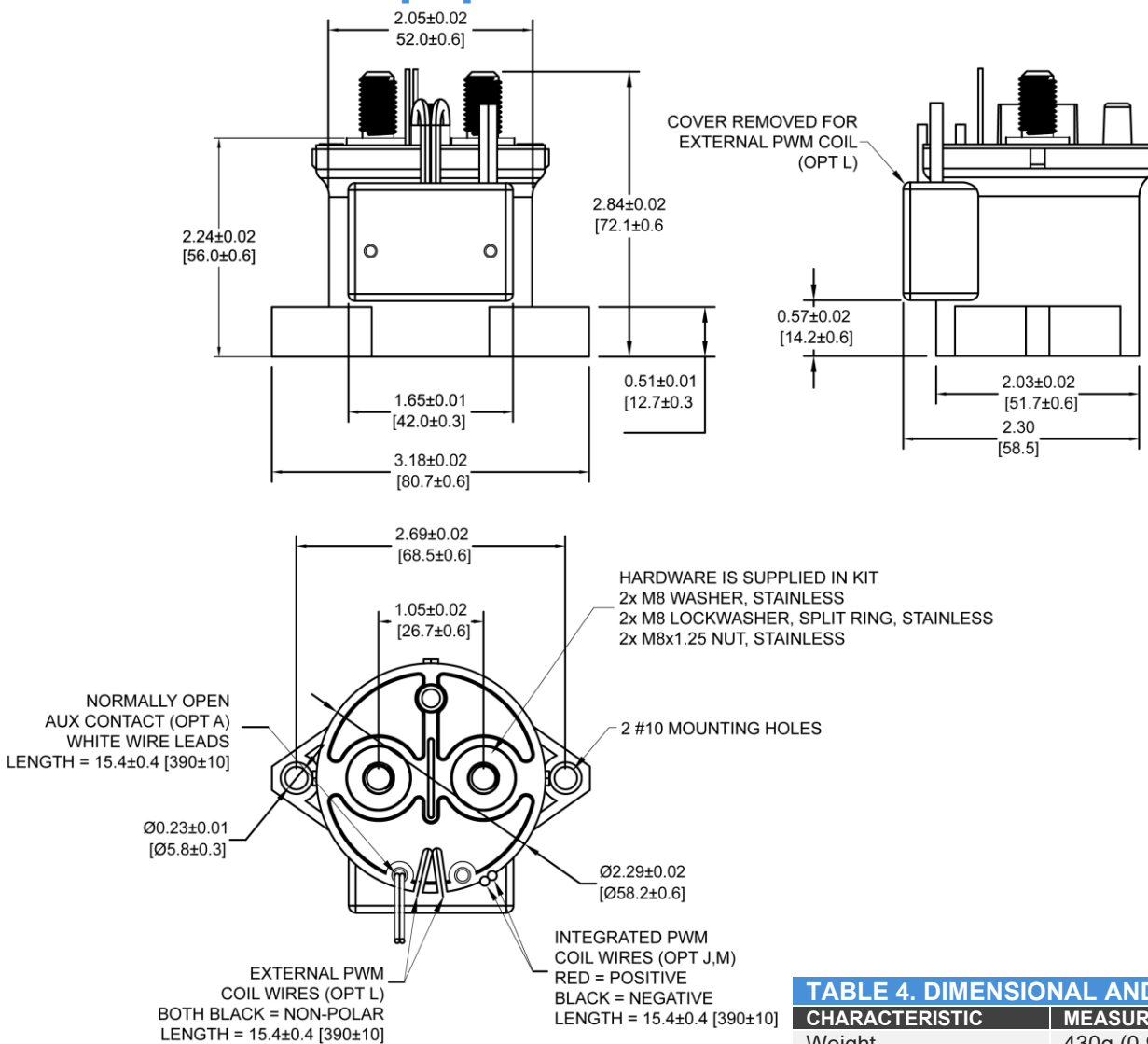
TABLE 3. PART NUMBER CONFIGURATION

SERIES	CONTACT POLARITY	MOUNTING	COIL	AUXILIARY CONTACTS
REC35	B Bi-directional ¹	1 Bottom Mount	J 9-36V integrated PWM	X None
			L 9-36V external PWM*	A Normally Open
			M 32-95V integrated PWM	

* Requires customer to provide PWM controls and a fast drop-out circuit for the coil. Both coil wires will be black and are non-polar. Contact us for detailed application notes.

Available Part Numbers: REC35B1JA, REC35B1LX, REC35B1LA, REC35B1MX, REC35B1MA

PRODUCT DIMENSIONS [mm]



3D model available upon request

TABLE 4. DIMENSIONAL AND INSTALLATION

CHARACTERISTIC	MEASURE
Weight	430g (0.95 lb)
Mounting Position	Any / Not Position Sensitive
Package Quantity	20 pieces
Install Torque	9-11Nm (80-97 in-lb)
M8 Main Terminals	2-4 Nm (17-35 in-lb)
M5 Mounting Inserts	2-4 Nm (17-35 in-lb)

Internal Coil Economizer Options

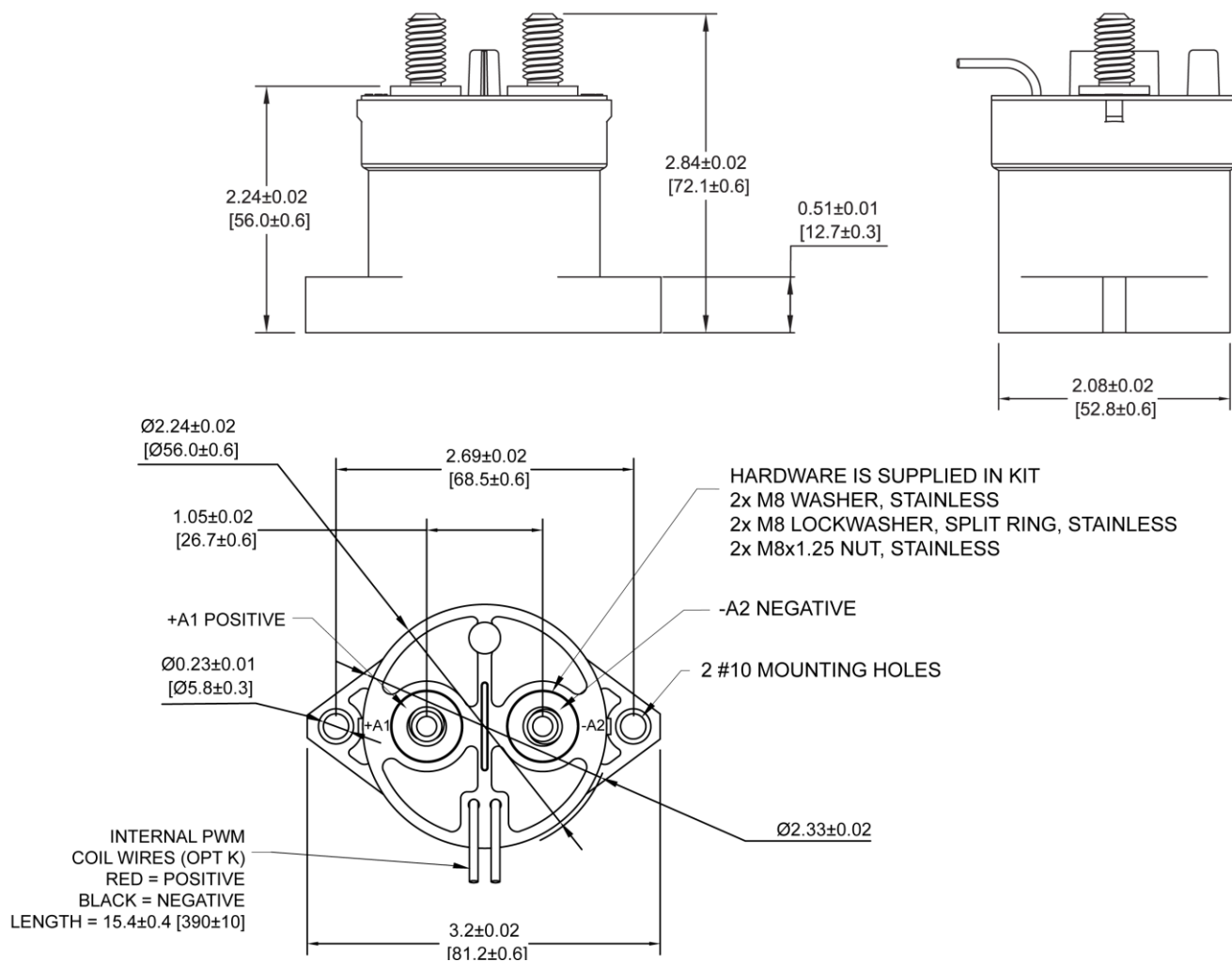
TABLE 5. PART NUMBER CONFIGURATION

SERIES	CONTACT POLARITY	MOUNTING	COIL	AUXILIARY CONTACTS
REC35	P Polarity Sensitive ¹	1 Bottom Mount	K 9-36V internal PWM	X None*

* Auxiliary contacts are not an option for the REC35 version with internal economizer (K coil) or the PCB mountable version.

Available Part Numbers: REC35P1KX

PRODUCT DIMENSIONS [mm]



3D model available upon request

PCB Mountable Version

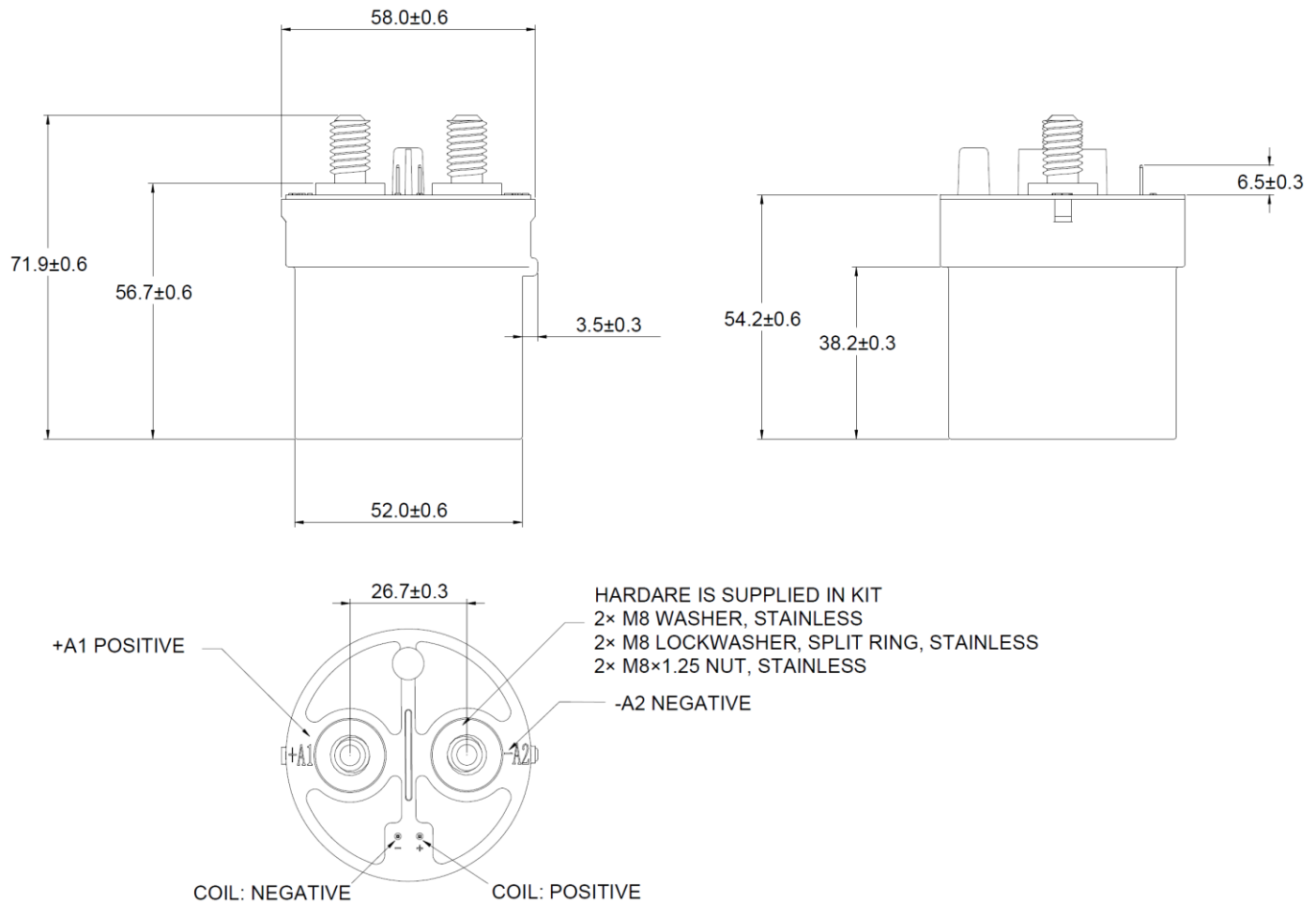
TABLE 6. PART NUMBER CONFIGURATION

SERIES	CONTACT POLARITY	MOUNTING	COIL	AUXILIARY CONTACTS
REC35	P Polarity Sensitive ¹	3 PCB Mount	K 9-36V internal PWM	X None*

* Auxiliary contacts are not an option for the REC35 version with internal economizer (K coil) or the PCB mountable version.

Available Part Numbers: REC35P3KX

PRODUCT DIMENSIONS [mm]



3D model available upon request

NOTES

1. 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.
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.
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.

Legal notice: This datasheet is subject to Rincon Power's Product Datasheet Legal Disclaimer.

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