

REC35 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

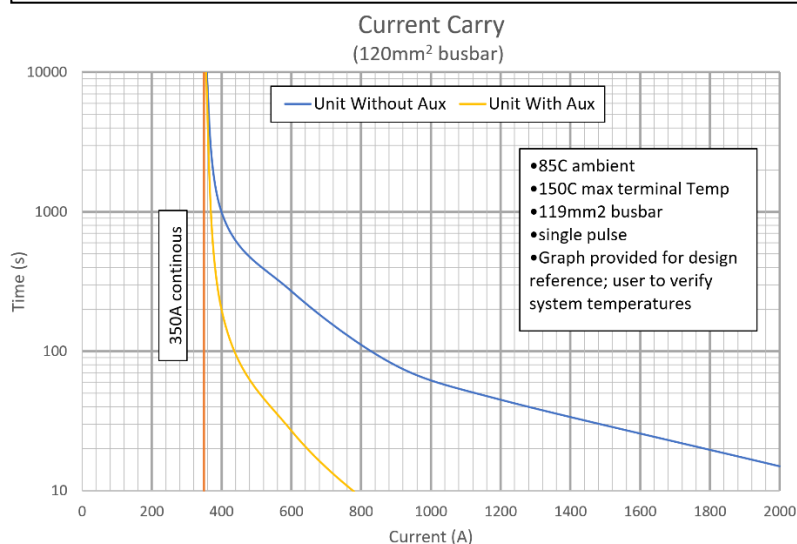


PERFORMANCE

TABLE 1. SPECIFICATIONS

| CHARACTERISTIC | | MEASURE |
|---|-----------|---|
| Contact Arrangement | | Form X, SPST NO |
| Max Switching Voltage | | 1000 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) | | 500A |
| Overload Current | 1 minute | 1,000A |
| | 5 Minutes | 650A |
| Make and Break | | See table |
| 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 | | 9-36 VDC 32-95V |
| Pick-up Voltage (Max) | | 9 VDC 32 VDC |
| Drop-out Voltage (Min) | | 6 VDC 18 VDC |
| Inrush Current (Max), 130ms max duration | | 3.8A 1.3A |
| Holding Current | | 0.17A @ 12 VDC |
| | | 0.09A @ 24 VDC 0.05A @ 48 VDC |

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


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

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

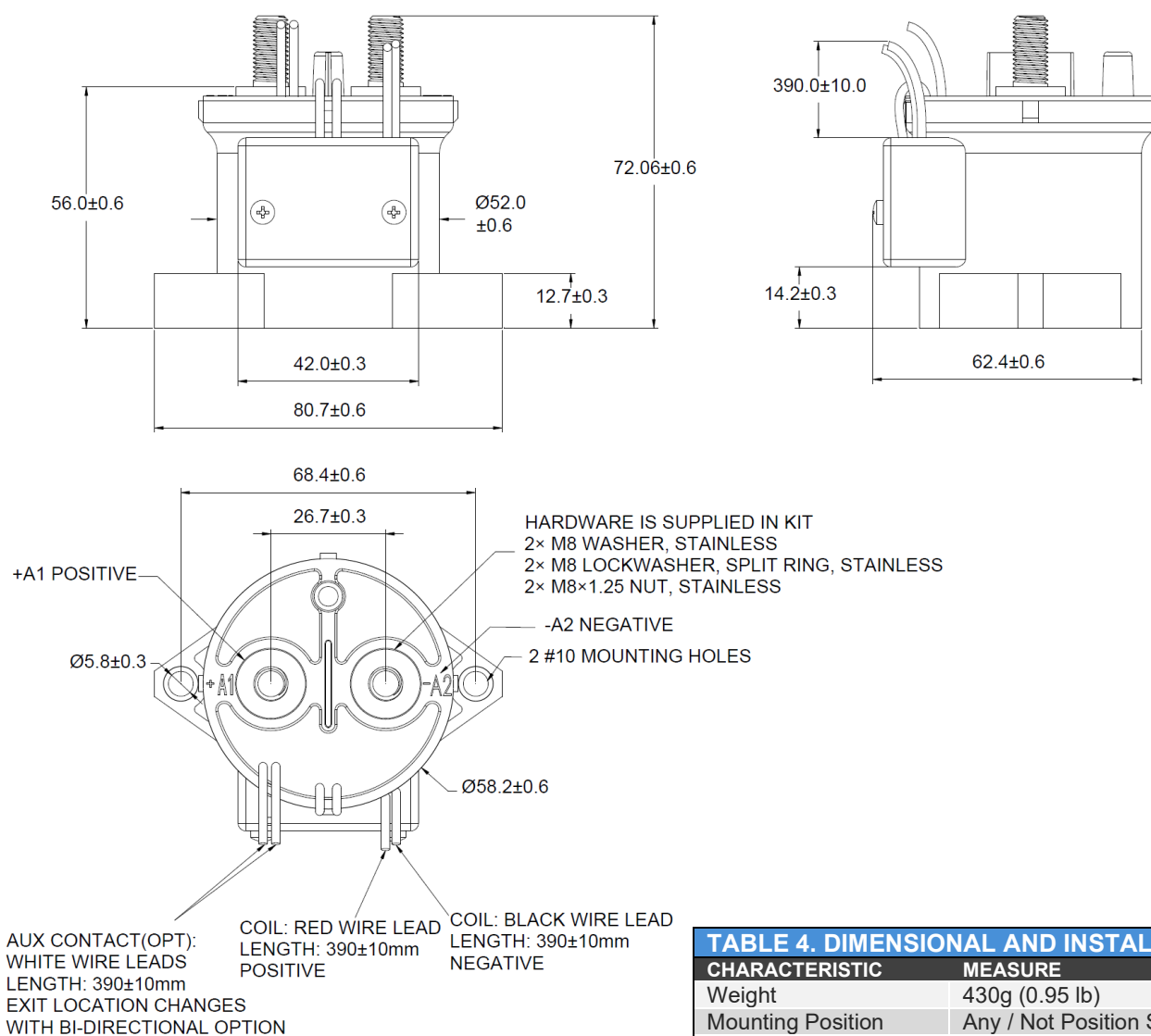
OPTIONS – see next pages for ordering key for bi-directional and other variants

Polarity Sensitive Version

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

¹ Requires customer to provide PWM control and a fast drop-out circuit for the coil (See AN0001)

PRODUCT DIMENSIONS [mm]



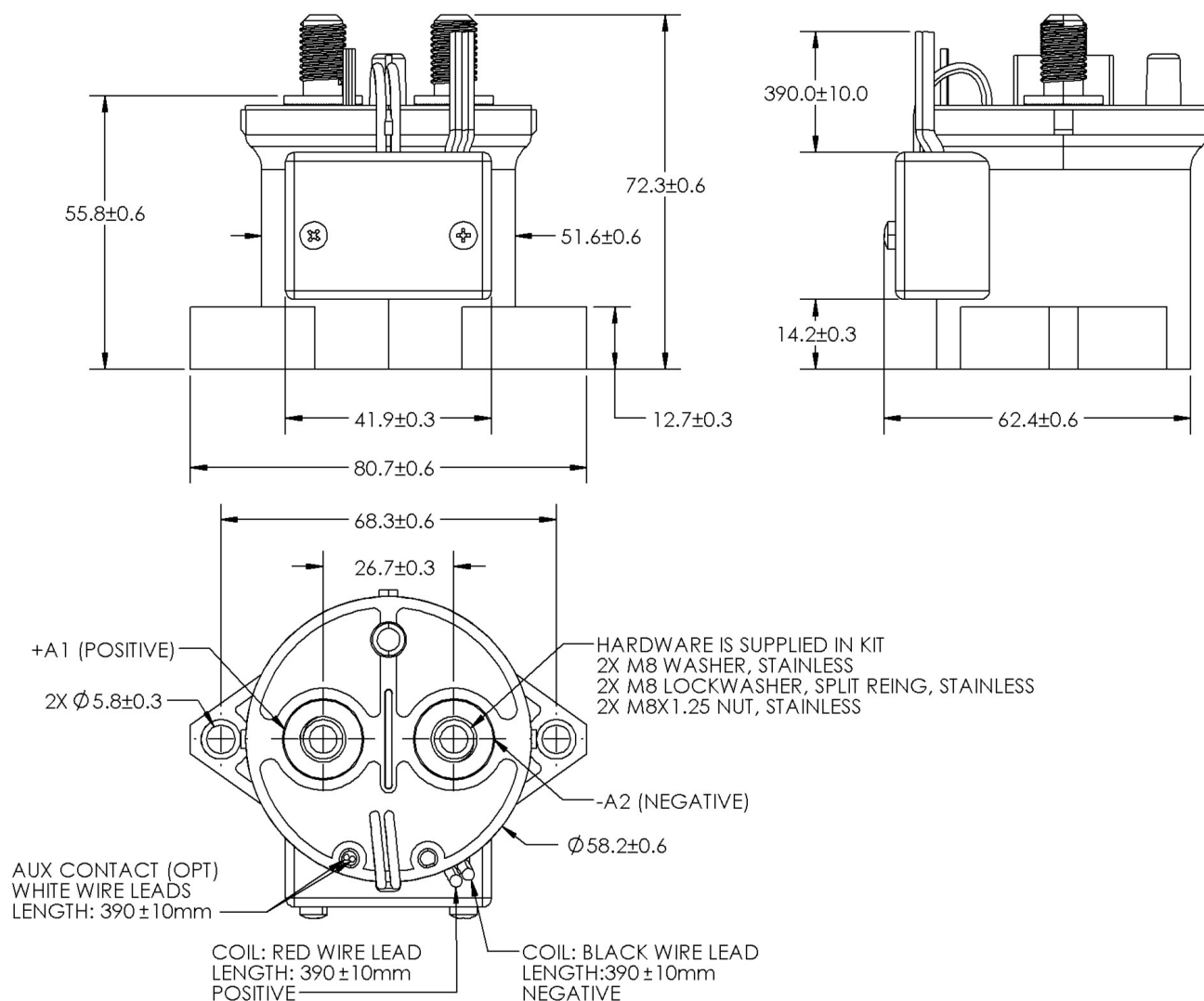
| TABLE 4. DIMENSIONAL AND INSTALLATION | |
|---------------------------------------|------------------------------|
| CHARACTERISTIC | MEASURE |
| Weight | 430g (0.95 lb) |
| Mounting Position | Any / Not Position Sensitive |
| Package Quantity | 20 pieces |
| Install Torque | 9-11Nm (80-97 in-lb) |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

Bi-Directional Version

TABLE 5. PRODUCT NOMENCLATURE

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

PRODUCT DIMENSIONS [mm]



NOTES

¹ Requires customer to provide PWM control and a fast drop-out circuit for the coil (See AN0001)

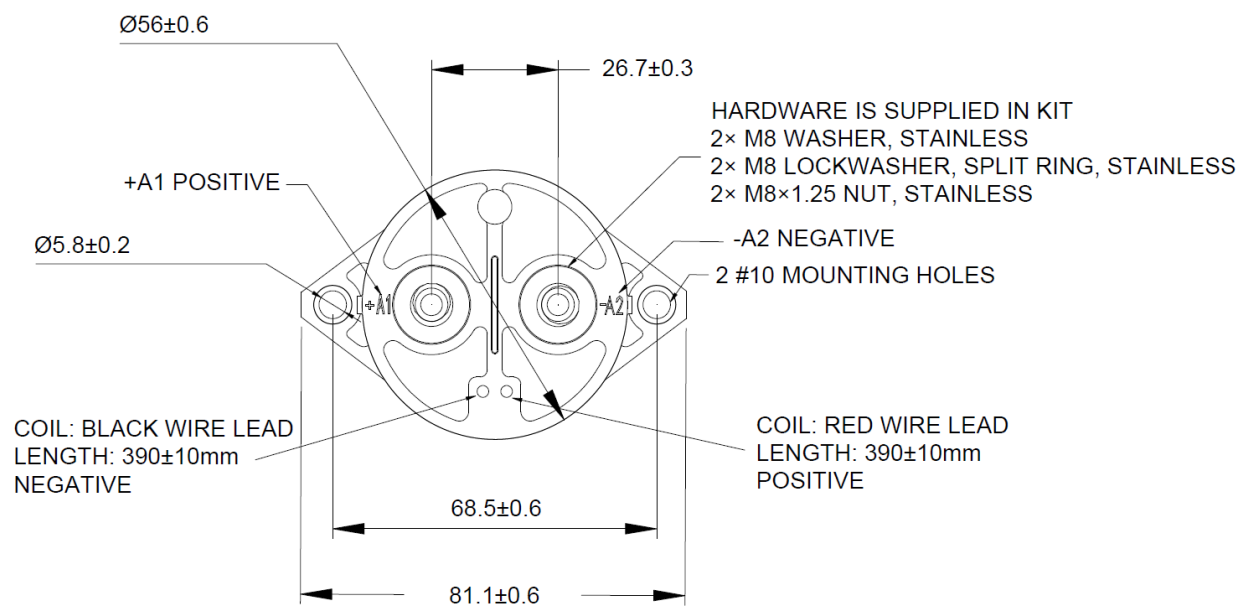
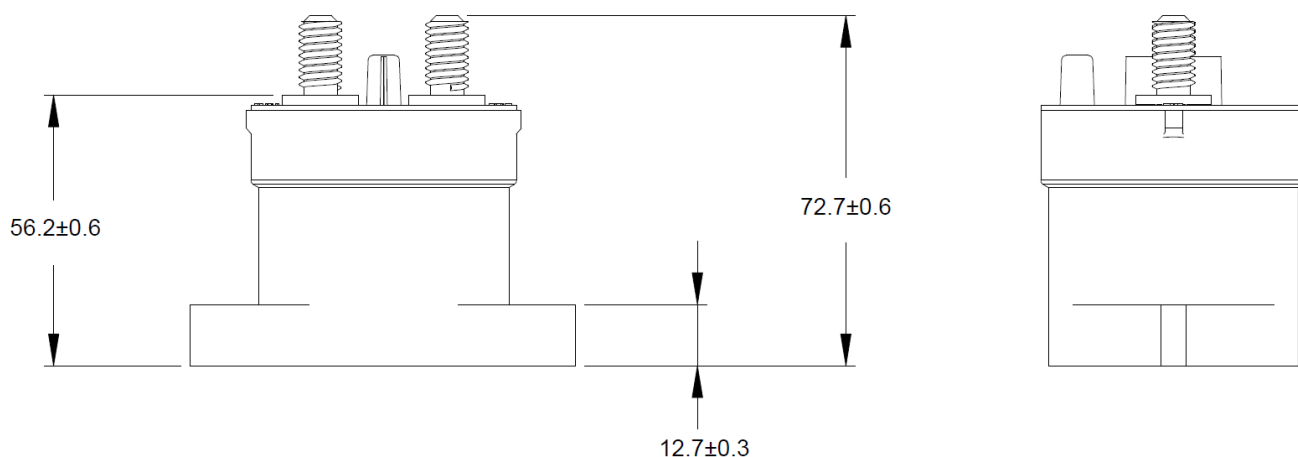
- NC Auxiliary contacts are not an option for the REC35 bi-directional version

Internal Coil Economizer Version (no backpack)

TABLE 5. PRODUCT NOMENCLATURE

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

PRODUCT DIMENSIONS [mm]



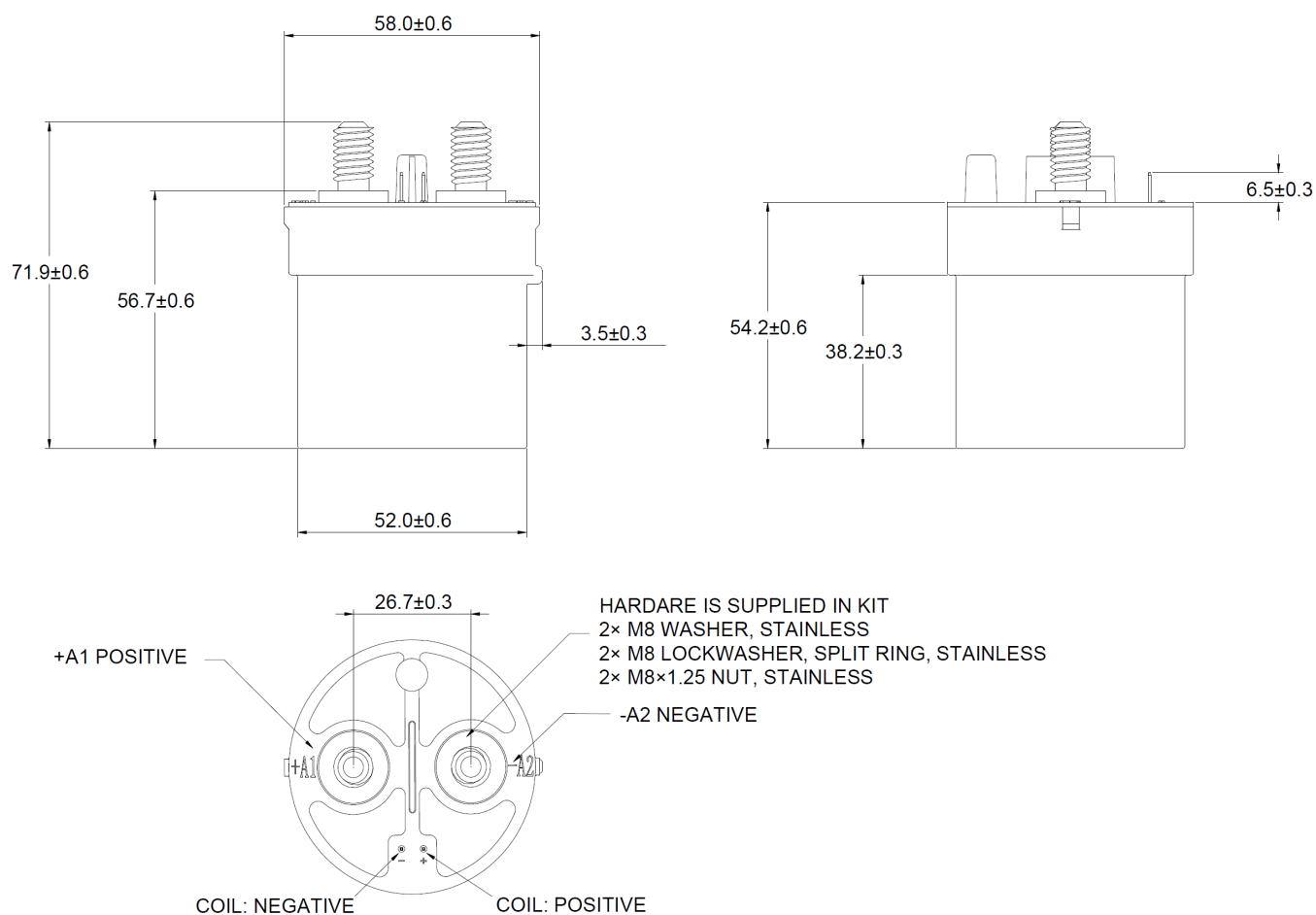
NOTES

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

PCB Mountable Version

| TABLE 6. PRODUCT NOMENCLATURE | | | | |
|-------------------------------|-----------------------------|--------------------|-----------------------------|--------------------|
| | CONTACT POLARITY | MOUNTING | COIL | AUXILIARY CONTACTS |
| REC35 | P Polarity Sensitive | 3 PCB mount | K 9-36V internal PWM | X None |

PRODUCT DIMENSIONS [mm]



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.
- 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.