

REC10 SERIES

High Voltage Contactors

100A CONTINUOUS DUTY

1000V SYSTEM

VOLTAGE



FEATURES

SPST Normally Open High Voltage Contactors

- Hermetic seal with gas fill
- Optional auxiliary contacts for main position feedback
- Wide range of options

- Meets RoHS 2011/65/EU
- CE certified
- IEC60947-5-1 compliant
- CCC Certified

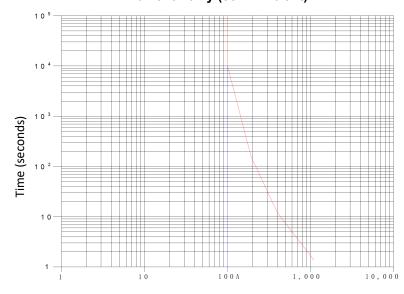




PERFORMANCE

| CHARACTERISTIC MEASURE Contact Arrangement Form X, SPST NO Max Switching Voltage 1,000 VDC Dielectric Withstand Voltage Contacts to Coil 4,000 VAC, 1 minute Dielectric Withstand Voltage Across Open Contacts 4,000 VDC, 1 minute Continuous Current (35mm² conductor) 100A Overload Current 30 seconds 3 Minutes 200A Make and Break See table Max Short Circuit Current -1 second 1,250 A Min Insulation Resistance 1,000 Mohm @ 1,000V Contact Voltage Drop (Max) 80mV @ 100A Operate Time (Max, incl bounce) 25ms 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 Exceeds IP69, (Hermetically sealed) Mechanical life 200,000 AUXILIARY CONTACTS MEASURE Contact Arrangement 2A Contact Arrangement 2A Contact Qore MEASURE | TABLE 1. SPECIFICATIONS | | | |
|--|---|---------------------|--|--|
| Max Switching Voltage | | MEASURE | | |
| Dielectric Withstand Voltage Contacts to Coil 4,000 VAC, 1 minute Dielectric Withstand Voltage Across Open Contacts 4,000 VDC, 1 minute 4,000 VD | Contact Arrangement | Form X, SPST NO | | |
| Dielectric Withstand Voltage Across Open Contacts | Max Switching Voltage | | | |
| Dielectric Withstand Voltage Across Open Contacts | Dielectric Withstand Voltage Contacts to Coil | 4,000 VAC, 1 minute | | |
| Overload Current 30 seconds 3 Minutes 500A Make and Break See table Max Short Circuit Current -1 second 1,250 A Min Insulation Resistance 1,000 Mohm @ 1,000V Contact Voltage Drop (Max) 80mV @ 100A Operate Time (Max, incl bounce) 25ms 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 Exceeds IP69, (Hermetically sealed) Mechanical life 200,000 AUXILIARY CONTACTS MEASURE Contact Arrangement SPST Continuous Current 2A Minimum Current 100mA @ 8V COIL @ 20°C MEASURE Nominal Voltage 12V 24V 48V Pick-up Voltage (Max) 9.6 VDC 19.2 VDC 38.4 VDC Drop-out Voltage (Min) 0.46A 0.25A 0.12A | Dielectric Withstand Voltage Across Open Contacts | | | |
| 3 Minutes 200A | Continuous Current (35mm² conductor) | 100A | | |
| Make and Break See table Max Short Circuit Current -1 second 1,250 A Min Insulation Resistance 1,000 Mohm @ 1,000V Contact Voltage Drop (Max) 80mV @ 100A Operate Time (Max, incl bounce) 25ms 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 Exceeds IP69, (Hermetically sealed) Mechanical life 200,000 AUXILIARY CONTACTS MEASURE Contact Arrangement SPST Continuous Current 2A Minimum Current 100mA @ 8V COIL @ 20°C MEASURE Nominal Voltage 12V 24V 48V Pick-up Voltage (Max) 9.6 VDC 19.2 VDC 38.4 VDC Drop-out Voltage (Min) 0.8 VDC 1.6 VDC 3.3 VDC Holding Current 0.46A 0.25A 0.12A | Overload Current 30 seconds | 500A | | |
| Max Short Circuit Current -1 second 1,250 A Min Insulation Resistance 1,000 Mohm @ 1,000V Contact Voltage Drop (Max) 80mV @ 100A Operate Time (Max, incl bounce) 25ms 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 Exceeds IP69, (Hermetically sealed) Mechanical life 200,000 AUXILIARY CONTACTS MEASURE Contact Arrangement SPST Continuous Current 2A Minimum Current 100mA @ 8V COIL @ 20°C MEASURE Nominal Voltage 12V 24V 48V Pick-up Voltage (Max) 9.6 VDC 19.2 VDC 38.4 VDC Drop-out Voltage (Min) 0.8 VDC 1.6 VDC 3.3 VDC Holding Current 0.46A 0.25A 0.12A | 3 Minutes | 200A | | |
| Min Insulation Resistance 1,000 Mohm @ 1,000V Contact Voltage Drop (Max) 80mV @ 100A Operate Time (Max, incl bounce) 25ms 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 Exceeds IP69, (Hermetically sealed) Mechanical life 200,000 AUXILIARY CONTACTS MEASURE Contact Arrangement SPST Continuous Current 2A Minimum Current 100mA @ 8V COIL @ 20°C MEASURE Nominal Voltage 12V 24V 48V Pick-up Voltage (Max) 9.6 VDC 19.2 VDC 38.4 VDC Drop-out Voltage (Min) 0.8 VDC 1.6 VDC 3.3 VDC Holding Current 0.46A 0.25A 0.12A | Make and Break | See table | | |
| Contact Voltage Drop (Max) Operate Time (Max, incl bounce) Release Time (Max) Shock - Functional, 1/2 Sine, 11ms Shock - Destructive, 1/2 Sine, 11ms Operating Temperature Ingress Protection Mechanical life AUXILIARY CONTACTS Contact Arrangement Continuous Current Minimum Current COIL @ 20°C Nominal Voltage Pick-up Voltage (Max) Drop-out Voltage (Min) Holding Current Dums 80mV @ 100A 25ms Remy 20G Exceeds IP69, (Hermetically sealed) Exceeds IP69, (Hermetically sealed) MEASURE 200,000 MEASURE Very 100mA @ 8V COIL @ 20°C MEASURE 12V 12V 148V 19.2 VDC 38.4 VDC 16 VDC 3.3 VDC Holding Current 0.46A 0.25A 0.12A | Max Short Circuit Current -1 second | 1,250 A | | |
| Operate Time (Max, incl bounce) 25ms 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 Exceeds IP69, (Hermetically sealed) Mechanical life 200,000 AUXILIARY CONTACTS MEASURE Contact Arrangement SPST Continuous Current 2A Minimum Current 100mA @ 8V COIL @ 20°C MEASURE Nominal Voltage 12V 24V 48V Pick-up Voltage (Max) 9.6 VDC 19.2 VDC 38.4 VDC Drop-out Voltage (Min) 0.8 VDC 1.6 VDC 3.3 VDC Holding Current 0.46A 0.25A 0.12A | Min Insulation Resistance | 1,000 Mohm @ 1,000V | | |
| Release Time (Max) | Contact Voltage Drop (Max) | | | |
| 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 2A Minimum Current 100mA @ 8V COIL @ 20°C MEASURE Nominal Voltage 12V 24V 48V Pick-up Voltage (Max) 9.6 VDC 19.2 VDC 38.4 VDC Drop-out Voltage (Min) 0.8 VDC 1.6 VDC 3.3 VDC Holding Current 0.46A 0.25A 0.12A | Operate Time (Max, incl bounce) | 25ms | | |
| 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 2A Minimum Current 100mA @ 8V COIL @ 20°C MEASURE Nominal Voltage 12V 24V 48V Pick-up Voltage (Max) 9.6 VDC 19.2 VDC 38.4 VDC Drop-out Voltage (Min) 0.8 VDC 1.6 VDC 3.3 VDC Holding Current 0.46A 0.25A 0.12A | Release Time (Max) | 10ms | | |
| 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 2A Minimum Current 100mA @ 8V COIL @ 20°C MEASURE Nominal Voltage 12V 24V 48V Pick-up Voltage (Max) 9.6 VDC 19.2 VDC 38.4 VDC Drop-out Voltage (Min) 0.8 VDC 1.6 VDC 3.3 VDC Holding Current 0.46A 0.25A 0.12A | Shock - Functional, 1/2 Sine, 11ms | 20G | | |
| Ingress Protection Exceeds IP69, (Hermetically sealed) Mechanical life 200,000 AUXILIARY CONTACTS MEASURE Contact Arrangement SPST Continuous Current 2A Minimum Current 100mA @ 8V COIL @ 20°C MEASURE Nominal Voltage 12V 24V 48V Pick-up Voltage (Max) 9.6 VDC 19.2 VDC 38.4 VDC Drop-out Voltage (Min) 0.8 VDC 1.6 VDC 3.3 VDC Holding Current 0.46A 0.25A 0.12A | Shock – Destructive, 1/2 Sine, 11ms | 50G | | |
| Mechanical life 200,000 AUXILIARY CONTACTS MEASURE Contact Arrangement SPST Continuous Current 2A Minimum Current 100mA @ 8V COIL @ 20°C MEASURE Nominal Voltage 12V 24V 48V Pick-up Voltage (Max) 9.6 VDC 19.2 VDC 38.4 VDC Drop-out Voltage (Min) 0.8 VDC 1.6 VDC 3.3 VDC Holding Current 0.46A 0.25A 0.12A | Operating Temperature | -40°C to 85°C | | |
| AUXILIARY CONTACTS MEASURE Contact Arrangement SPST Continuous Current 2A Minimum Current 100mA @ 8V COIL @ 20°C MEASURE Nominal Voltage 12V 24V 48V Pick-up Voltage (Max) 9.6 VDC 19.2 VDC 38.4 VDC Drop-out Voltage (Min) 0.8 VDC 1.6 VDC 3.3 VDC Holding Current 0.46A 0.25A 0.12A | | | | |
| Contact Arrangement SPST Continuous Current 2A Minimum Current 100mA @ 8V COIL @ 20°C MEASURE Nominal Voltage 12V 24V 48V Pick-up Voltage (Max) 9.6 VDC 19.2 VDC 38.4 VDC Drop-out Voltage (Min) 0.8 VDC 1.6 VDC 3.3 VDC Holding Current 0.46A 0.25A 0.12A | | | | |
| Continuous Current 2A Minimum Current 100mA @ 8V COIL @ 20°C MEASURE Nominal Voltage 12V 24V 48V Pick-up Voltage (Max) 9.6 VDC 19.2 VDC 38.4 VDC Drop-out Voltage (Min) 0.8 VDC 1.6 VDC 3.3 VDC Holding Current 0.46A 0.25A 0.12A | AUXILIARY CONTACTS | MEASURE | | |
| Minimum Current 100mA @ 8V COIL @ 20°C MEASURE Nominal Voltage 12V 24V 48V Pick-up Voltage (Max) 9.6 VDC 19.2 VDC 38.4 VDC Drop-out Voltage (Min) 0.8 VDC 1.6 VDC 3.3 VDC Holding Current 0.46A 0.25A 0.12A | Contact Arrangement | SPST | | |
| COIL @ 20°C MEASURE Nominal Voltage 12V 24V 48V Pick-up Voltage (Max) 9.6 VDC 19.2 VDC 38.4 VDC Drop-out Voltage (Min) 0.8 VDC 1.6 VDC 3.3 VDC Holding Current 0.46A 0.25A 0.12A | Continuous Current | 2A | | |
| Nominal Voltage 12V 24V 48V Pick-up Voltage (Max) 9.6 VDC 19.2 VDC 38.4 VDC Drop-out Voltage (Min) 0.8 VDC 1.6 VDC 3.3 VDC Holding Current 0.46A 0.25A 0.12A | Minimum Current | | | |
| Pick-up Voltage (Max) 9.6 VDC 19.2 VDC 38.4 VDC Drop-out Voltage (Min) 0.8 VDC 1.6 VDC 3.3 VDC Holding Current 0.46A 0.25A 0.12A | | | | |
| Drop-out Voltage (Min) 0.8 VDC 1.6 VDC 3.3 VDC Holding Current 0.46A 0.25A 0.12A | 9 | | | |
| Holding Current 0.46A 0.25A 0.12A | | | | |
| o . | | | | |
| Coll (resistance +/- 2 /0 2022 2022 | 0 | | | |
| Coil Power 5.5W 6W 6W | | | | |

Current Carry (85C Ambient)



| TABLE 2. RESISTIVE LOAD SWITCHING (MAKE / BREAK DATA) | | | | |
|---|----------------------|--|--|--|
| POLARITY S VERSION VOLTAGE | SENSITIVE CURRENT | CYCLES (1 cycle = 1 make + 1 break) | | |
| 450V | 100A | 8,000 | | |
| 450V | 1,500A | 1 (Fault Interrupt) | | |
| 650V | 100A | 1,000 | | |
| BI-DIRECTIONAL VERSION VOLTAGE CURRENT | | CYCLES (1 cycle = 1 make + 1 break) | | |
| 450V | 100A | 6,000 | | |
| 650V | 100A | 600 | | |

Current (A)

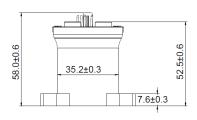


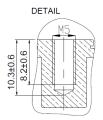
OPTIONS

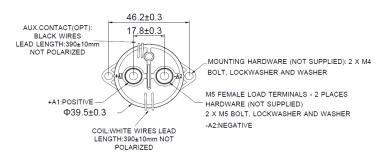
| TABLE 3. PRODUCT NOMENCLATURE | | | | | |
|-------------------------------|-----------------------------------|-------------------|-------------------|--------------------|--|
| | CONTACT POLARITY | MOUNTING | COIL | AUXILIARY CONTACTS | |
| REC10 | B Bi-directional | 1 Bottom Mount | A 12V single coil | X None | |
| | P Polarity Sensitive 2 Side Mount | Oide Marret | B 24V single coil | A SPST, | |
| | | C 48V single coil | Normally Open | | |

PRODUCT DIMENSIONS [mm]

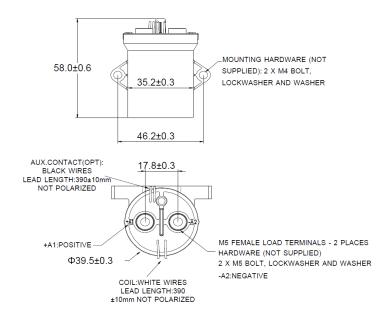
A:BOTTOM MOUNT







B:SIDE MOUNT



| TABLE 4. DIMENSIONAL AND INSTALLATION | | | |
|---------------------------------------|------------------------------|--|--|
| CHARACTERISTIC | MEASURE | | |
| Weight | 190g (0.42 lb) | | |
| Mounting Position | Any / Not Position Sensitive | | |
| Package Quantity | TBD | | |
| Install Torque M5 Main Terminals | 2.5-4.5Nm (22-40 in-lb) | | |



NOTES

- The auxiliary contacts are connected internally via an armature on the main contact plunger. As the main contacts close, they
 automatically cause the auxiliary contacts to close
- 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
- 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