CST CUSTOM SENSORS & TECHNOLOGIES

crydom

InstallationSheet

3 Phase RHP - Hybrid Solid State Contactors

3 Phase Contactor
AC Input

PATENT PENDING

40-50 Amp
280/600 VAC

- Combined SSR and EMR advantages
- Lifetime >2 million operations @ full load
- No heat sink required
- Input status LED indicator
- Wire, lug or quick connect termination
- DP contactor footprint
- CE compliant & UL/cUL recognized

CONTROL SPECIFICATIONS ①

Control Voltage Suffix	E	F	G
Coil Voltage Range	20 - 26 VAC, 50/60 Hz	100 - 130 VAC, 50/60 Hz	208 - 240 VAC, 50/60 Hz
Min. Turn-On Voltage	20 VAC	100 VAC	208 VAC
Min. Turn-Off Voltage	12 VAC	24 VAC	48 VAC
Coil Power Consumption, Inrush	56 VA @ 24 VAC	56 VA @ 120 VAC	56 VA @ 220 VAC
Coil Power Consumption, Sealed	6.6 VA @ 24 VAC	6.6 VA @ 120 VAC	6.6 VA @ 220 VAC
Coil Terminals	10 in lb (1.13 Nm)	10 in lb (1.13 Nm)	10 in lb (1.13 Nm)

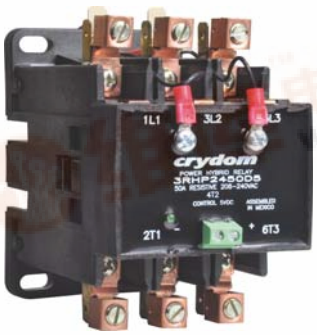
OUTPUT SPECIFICATIONS ①

Voltage suffix	28	60
Operating Voltage (50/60Hz)	24 - 280 VAC	48 - 600 VAC
Maximum Off-State Leakage Current per channel ③	0.05 mA @ 240 VAC	0.06 mA @ 480 VAC
Load Current suffix	40	50
Maximum Load Current per Phase @ 40°C ②	40 A Resistive	50 A Resistive
Power terminals / wire range	Dual quick connect and Binder head screws / AWG#14 - AWG#8	Dual quick connect and Box lugs / AWG#14 - AWG#6
Screw torque requirements	18 in lbs (2.1 Nm)	25 in lbs (2.9 Nm)

GENERAL SPECIFICATIONS ①

Input to Output Dielectric Isolation.	4000 VAC
Input/Output to Ground Dielectric Isolation.	2500 VAC
Contacts (Double Break) ③	Three Normally Open
Ambient Operating Temperature Range ④	-20°C to 75°C
Ambient Storage Temperature Range	-40°C to 100°C
Max. Turn-On Time	16.6 mS @ 60 Hz / 20 mS @ 50 Hz
Max. Turn-Off Time	32 mS @ 60 Hz / 40 mS @ 50 Hz
Maximum Number of Operations per Minute	30 operations per min
Lifetime @ Rated Load Current, 40°C ambient temp, 30 operations/min, Rated Vcontrol	> 2 Million operations
Weight (typical)	540 grs (1.19 lb)

① Specifications @ 25°C unless otherwise noted.
② See Derating Curves for additional operational conditions.
③ The RHP includes a Solid-State Relay. Therefore, the output is never completely open.
④ The RHP includes an overtemperature protection for the Solid-State Module.



3 Phase Contactor
DC Input

PATENT PENDING

40-50 Amp
120/240 VAC

- Combined SSR and EMR advantages
- Lifetime >2 million operations @ full load
- No heat sink required
- DC logic compatible input
- Input status LED indicator
- Wire, lug or quick connect termination
- DP contactor footprint
- CE compliant & UL/cUL recognized

CONTROL SPECIFICATIONS ①

Control Voltage Suffix	D5	D12	D24
Control Voltage Range	4.5 - 5.5 VDC	10 - 15 VDC	22 - 27 VDC
Max. Reverse Voltage	-5.5 VDC	-15.5 VDC	-27.5 VDC
Min. Turn-On Voltage	4.5 VDC	9.5 VDC	9.5 VDC
Min. Turn-Off Voltage	1 VDC	2 VDC	2 VDC
Input Current	12mA @ 5 VDC	12mA @ 12 VDC	12mA @ 24 VDC
Input Connector	5.31 in lb (0.6 Nm)	5.31 in lb (0.6 Nm)	5.31 in lb (0.6 Nm)

OUTPUT SPECIFICATIONS ①

Voltage suffix	12	24
Operating Voltage (50/60Hz)	100 - 120 VAC	208 - 240 VAC
Maximum Off-State Leakage Current per channel ③	0.05 mA @ 120 VAC	0.06 mA @ 240 VAC
Load Current suffix	40	50
Maximum Load Current per Phase @ 40°C ②	40 A Resistive	50 A Resistive
Power terminals / wire range	Dual quick connect and Binder head screws / AWG#14 - AWG#8	Dual quick connect and Box lugs / AWG#14 - AWG#6
Screw torque requirements	18 in lbs (2.1 Nm)	25 in lbs (2.9 Nm)

GENERAL SPECIFICATIONS ①

Input to Output Dielectric Isolation	4000 VAC
Input/Output to Ground Dielectric Isolation	2500 VAC
Contacts (Double Break) ③	Three Normally Open
Ambient Operating Temperature Range ④	-20°C to 75°C
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Max. Turn-On Time	16.6 mS @ 60 Hz / 20 mS @ 50 Hz
Max. Turn-Off Time	32 mS @ 60 Hz / 40 mS @ 50 Hz
Maximum Number of Operations per Minute	30 operations per min
Lifetime @ Rated Load Current, 40°C ambient temp, 30 operations/min, Rated Vcontrol	> 2 Million operations
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① Specifications @ 25°C unless otherwise noted.
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④ The RHP includes an overtemperature protection for the Solid-State Module.

Part Number Nomenclature

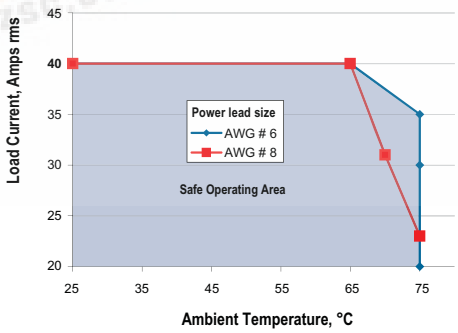
SERIES

3 RHP 12 40 D5

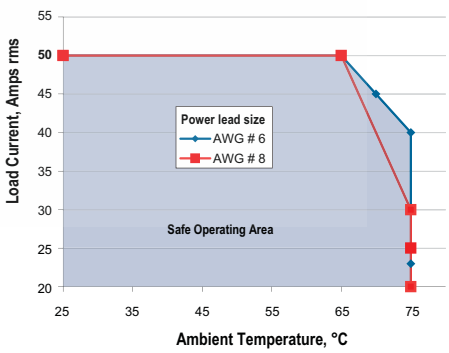
- **3** — Three Phase Device
- **RHP 12** — Operating Voltage VAC 50/60 Hz
  - **12**: 120 V 1-phase
  - **24**: 240 V 3-phase or 1-phase
  - **28**: 280 V 3-phase
  - **60**: 600 V 3-phase
- **40** — Load Current
  - **40**: 40 Amps
  - **50**: 50 Amps
- **D5** — Nominal Coil /Control Voltage
  - **D5**: 5 VDC
  - **D12**: 12 VDC
  - **D24**: 24 VDC
  - **E**: 24 VAC
  - **F**: 120 VAC
  - **G**: 220 VAC

Derating Curves

3RHPXX**40**XX



3RHPXX**50**XX



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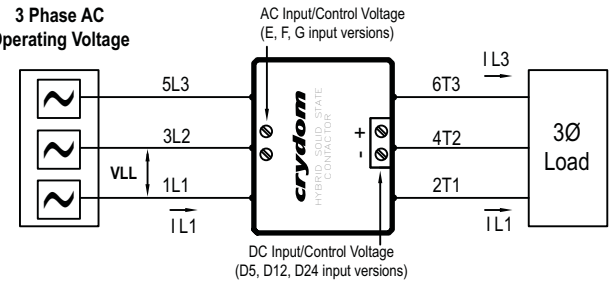
3 Phase RHP - Hybrid Solid State Contactors

Typical Electrical Connection for 3 Phase Applications ⑤

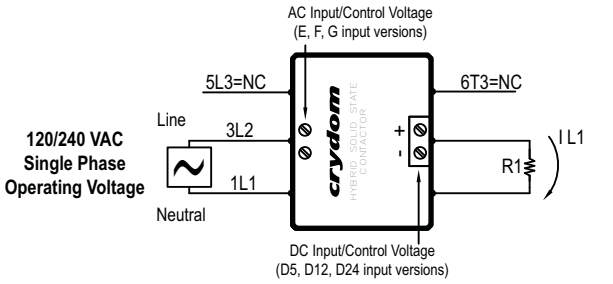
(For output voltage options 24, 28, 60)



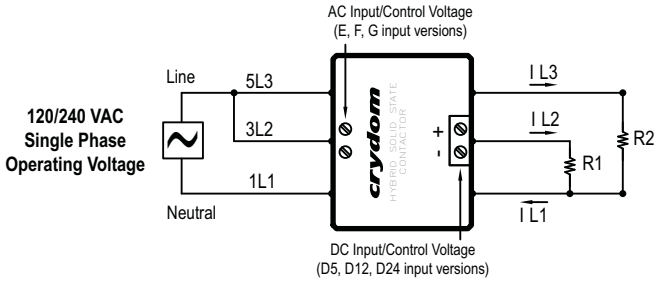
DO NOT apply any AC voltage to contactor coil connections, for DC versions only.

Optional Electrical Connections for Single Phase Applications ⑥

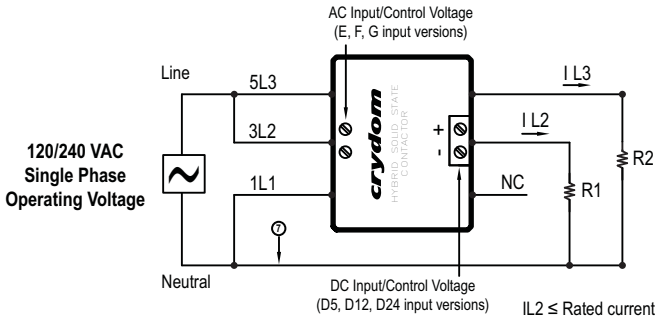
(For output voltage options 12, 24, 28, 60)



IL1 ≤ Rated current



IL1 = (IL2 + IL3) ≤ Rated current



IL2 ≤ Rated current
IL3 ≤ Rated current
IL2 + IL3 > Rated current

⑤ Match VLL to voltage suffixes 28 & 60 for options E, F & G and 12 & 24 for options DX.
⑥ The single phase supply voltage must be wired to terminal 1L1 and 3L2 for proper single phase operation.
⑦ In applications switching two single phase loads (R1 and R2) where the combined load current exceeds the contactor's rating (40 or 50 Amps) the return/neutral lead must not be wired through the contactor (see above drawing).

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH.

- Disconnect all power before installing or working with this equipment.
- Verify all connections and replace all covers before turning on power.

Failure to follow these instructions will result in death or serious injury.

RIESGO DE DESCARGA ELECTRICA O EXPLOSION.

- Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo.
- Verificar todas las conexiones y colocar todas las tapas antes de energizer el equipo.

El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.

RISQUE DE DESCHARGE ELECTRIQUE OU EXPLOSION

- Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil
- Vérifier tous connections, et remettre tous couverts en olace avant de mettre sous

De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.

GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION.

- Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen
- Vor der Inbetriebnahme alle Anschlüsse überprüfen und alle Gehäuseteile montieren.

Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.

RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSI ONE.

- Spenga tutta l'alimentazion e che fornisce questa apparecchiatu ra prima del lavorare a questa apparecchiatu ra
- Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazi one

L'omissione di seguire queste istruz ioni provocherà la morte o di lesioni serie

RISCO DE DESCARGA ELÉTTRICA OU EXPLOSÃO

- Desconectar o equipamento de toda á energia antes de instalar ou trabalhar com este equipamen to
- Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento

O não cumprimento destas instruções pode levar á morte ou lesões sérias.