# DRC Series

Motion Control

- 7.6 Amp AC Semiconductor Motor Controller
- Load voltage range up to 530VAC
- Fits standard 35mm DIN-RAIL
- LED input status indicator
- AC or DC control
- Zero-crossing (resistive loads) or instantaneous turn-on (inductive loads) output
- C-UL-US Listed, CCC Certified, IEC Rated, CE & RoHS Compliant, Horsepower Rated
- Built in Overvoltage Protection
- Ultra-efficient thermal management design (Patented)

Start / Stop  Reversing

Solicon DRC3 Series are Solid State Contactors intended for frequently switching on and off three phase loads up to **5 HP, 480 VAC 7.6 Amps.** They are available in both contactor versions **DRC3P** and reversing contactor versions **DRC3R.**

The Solicon Contactor DRC3P is available in either instantaneous turn-on (for Motor Control) or zero voltage turn-on (for Resistive Loads). It is available in either 2 or 3 controlled leg versions. The 2 legs control version is particularly suitable for motor control circuits where the neutral conductor is not utilized.

The Solicon Reversing Contactor DRC3R includes an **interlock** control that allows only off, forward and reverse operation in a safe mode while providing high space saving; it switches instantaneously upon application of the control voltage unless an instantaneous change of direction is commanded, then it will delay the direction change by 100msec in order to prevent simultaneous forward and reverse operations.

All the models of Solicon DRC3 Series combine the benefits and advantages of a solid state contactor with the functionality and simplicity of use of an electromechanical contactor thanks to the proprietary **thermal management technology (Patented)** and complete electrical insulation (no grounding required); the **embedded auxiliary contacts,** normally open and/or normally closed are intended to be used at 18-280Vac. Three different control voltages are available in order to cover most the applications. All models include **overvoltage protection**.

## PRODUCT SELECTION

| Control Voltage | Without Auxiliary Contact | 1 NO+NC Auxiliary Conctat | 2 NO Auxiliary Contact |
|---|---|---|---|
| 230 VAC | DRC3P48A400, DRC3R48A400 | DRC3P48A411 | DRC3P48A420, DRC3R48A420 |
| 120 VAC | DRC3P48B400, DRC3R48B400 | DRC3P48B411 | DRC3P48B420, DRC3R48B420 |
| 48 VAC/DC | DRC3P48C400, DRC3R48C400 | DRC3P48C411 | DRC3P48C420, DRC3R48C420 |
| 24 VAC/DC | DRC3P48D400, DRC3R48D400 | DRC3P48D411 | DRC3P48D420, DRC3R48D420 |

## AVAILABLE OPTIONS

**Series**

**DRC** | **3P** | **48** | **D** | **4** | **00** | **R** | **2**

**Function**
**3P:** Contactor
**3R:** Reversing Contactor

**Operating Voltage**
**40:** 400 VAC (3R function only)
**48:** 480 VAC

**Control Voltage**
**A:** 208-265 VAC
**B:** 90-140 VAC
**C:** 36-55 VAC/DC
**D:** 18-30 VAC/DC

**Load Current per Phase**
**4:** 7.6 Amp FLA (x2 Controlled Legs & 3R function);
4.8 Amp FLA (x3 Controlled Legs only)

**Auxiliary Contacts, N.O. - N.C.**
**00:** Not included
**11:** 1 Solid State Auxiliary Contact, Normally Open; 1 Solid State Auxiliary Contact, Normally Closed (3P function only)
**20:** 2 Solid State Auxiliary Contacts, Normally Open

**Switching Mode**
(3P function only)
**Blank:** Zero Voltage Turn-On
**R:** Instantaneous Turn-On

**Controlled Legs**
(3P function only)
**Blank:** 3 Controlled Legs
**2:** 2 Controlled Legs

Required for valid part number
For options only and not required for valid part number


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## OUTPUT SPECIFICATIONS (1)

| Description | DRC3Pxxxx | DRC3Pxxxx-2 | DRC3R40xxx | DRC3R48xxx |
|---|---|---|---|---|
| Operating Voltage (47-63Hz) [Vrms] | 48-530 | 48-530 | 48-415 | 48-510 |
| Transient Overvoltage [Vpk] (2) | 1200 | 1200 | 1200 | 1600 |
| Maximum Off-State Leakage Current @ Rated Voltage [mArms] | 3.0 | 3.0 | 5.5 | 5.5 |
| Maximum Off-State dv/dt @ Maximum Rated Voltage [V/µsec] | 500 | 500 | 500 | 500 |
| Load Current, Resistive UL508/AC51 @ 40°C [Arms] (3) | 5 | 7.6 | 7.6 | 7.6 |
| Load Current, Motor Controller UL508/AC53 @ 480VAC [Arms] (3) | 4.8 | 7.6 | 7.6 | 7.6 |
| Minimum Load Current [Arms] | 0.15 | 0.15 | 0.15 | 0.15 |
| Maximum Surge Current [Apk] 1 Cycle 60Hz | 750 | 750 | 750 | 625 |
| Maximum Surge Current [Apk] 1 Cycle 50Hz | 716 | 716 | 716 | 597 |
| Maximum $I^2t$ for Fusing (8.33msec)[$A^2$sec] | 2330 | 2330 | 2330 | 1621 |
| Maximum $I^2t$ for Fusing (10msec)[$A^2$sec] | 2560 | 2560 | 2560 | 1779 |
| Maximum On-State Voltage Drop @ Rated Current [Vrms] | 1.15 per channel | 1.15 per channel | 1.15 per channel | 1.5 per channel |
| Minimum Power Factor (with Maximum Load) | 0.5 | 0.5 | 0.5 | 0.5 |
| Ratings according to UL 508/IEC60947-4-2 [HP/KW]: 240 VAC | 1/.75 | 2/1.5 | 2/1.5 | 2/1.5 |
| Ratings according to UL 508/IEC60947-4-2 [HP/KW]: 400 VAC | 2/1.5 | 3/2.2 | 3/2.2 | 3/2.2 |
| Ratings according to UL 508/IEC60947-4-2 [HP/KW]: 480 VAC | 3/2.2 | 5/3.7 | - | 5/3.7 |

## INPUT SPECIFICATIONS (1)

| Description | Option A | Option B | Option C | Option D |
|---|---|---|---|---|
| Control Voltage Range | 208-265 (VAC) | 90-140 (VAC) | 36-55 (VAC / VDC) | 18-30 (VAC / VDC) |
| Minimum Turn-On Voltage (5) | 208 (VAC) | 90 (VAC) | 36 (VAC / VDC) | 18 (VAC / VDC) |
| Must Turn-Off Voltage | 40 (VAC) | 10 (VAC) | 4 (VAC / VDC) | 4 (VAC / VDC) |
| Minimum Input Current (for on-state) [mA] | 6.1 | 7.5 | 12 | 12.5 |
| Maximum Input Current [mA] | 8 | 13 | 20 | 32 |
| Nominal Input Impedance [Ohms] | 33 K | 12.5 K | 3 K | 0.93 K |
| Maximum Delay to Turn-On [msec] (8) | 30 | 30 | 30 | 20 |
| Maximum Turn-Off Time [msec] (9) | 40 | 40 | 40 | 30 |

## SOLID STATE AUXILIARY CONTACTS (1)

| Description | Normally Open Suffix 2x,1x | Normally Closed Suffix x1 |
|---|---|---|
| Operating Voltage Range (47-63Hz) [Vrms] (11) | 18-280 | 18-280 |
| Transient Overvoltage [Vpk] | 600 | 600 |
| Maximum Load Current [Arms] | 1 | 1 |
| Minimum Load Current [mA] | 5 | 5 |
| Maximum Surge Current [Apk] 1 Cycle 60Hz | 40 | 40 |
| Maximum Surge Current [Apk] 1 Cycle 50Hz | 38 | 38 |
| Maximum $I^2t$ for Fusing (8.33msec)[$A^2$sec] | 6.7 | 6.7 |
| Maximum $I^2t$ for Fusing (10msec)[$A^2$sec] | 7.2 | 7.2 |
| Maximum Off-State Leakage Current @ Rated Voltage [mArms] | 0.1 | 5 mA |
| Minimum Off-State dv/dt @ Maximum Rated Voltage [V/µsec] | 500 | 500 |
| Maximum Delay to Turn-On [msec] (8) | 30 | 80 |
| Maximum Turn-Off Time [msec] (9) | 40 | 40 |

## GENERAL SPECIFICATIONS (1)

| Description | Parameters |
|---|---|
| Dielectric Strength, Input/Output/Base (50/60Hz) (4) | 3750 Vrms |
| Minimum Insulation Resistance (@ 500 V DC) | $10^9$ Ohm |
| Maximum Capacitance, Input/Output | 20 pF |
| Ambient Operating Temperature Range | -30 to 80 °C |
| Ambient Storage Temperature Range | -40 to 100 °C |
| Weight (typical) | 2 Controlled Legs (6.940 oz [196.7 g]) / 3 Controlled Legs (8.050 oz [228 g]) |
| Housing Material | UL94 V-0 |
| Housing Color | Black and Light Gray |
| LED Status Indicator (color) (7) | Forward (Green) / Reverse (Amber) |
| Short Circuit Current Rating (10) | 100KA |
| MTBF (Mean Time Between Failures) at 40°C ambient temperature (14) | 1,398,000 hours (159 years) |
| MTBF (Mean Time Between Failures) at 60°C ambient temperature (14) | 390,000 hours (44 years) |
| Pollution Degree | 2 |
| Protection Degree | IP20 |
| Humidity | 85% non-condensing |
| Control and Auxiliary Contact Terminal Screw Torque Range (in-lbs/Nm) | 12 / 1.36 |
| Load Terminal Screw Torque Range (in-lbs/Nm) | 15 / 1.7 |
| Input Terminal Wire Capacity | 18-12 AWG (IEC 1-4 mm2) (stranded /solid) |
| Output Terminal Wire Capacity | 18-10 AWG (IEC 1-6 mm2 (stranded /solid) |


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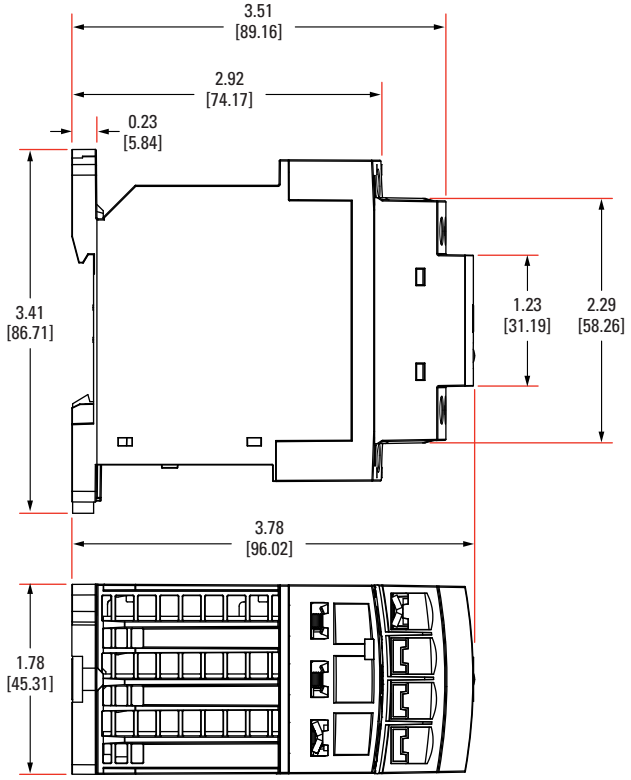
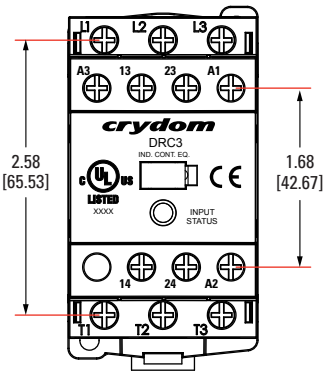
## MECHANICAL SPECIFICATIONS (1)

Tolerances: ±0.02 in / 0.5 mm
All dimensions are in: inches [millimeters]

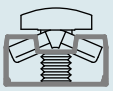



## TERMINAL SCREW TYPE

Top/Bottom view (Fig. 1)

Fig. 1



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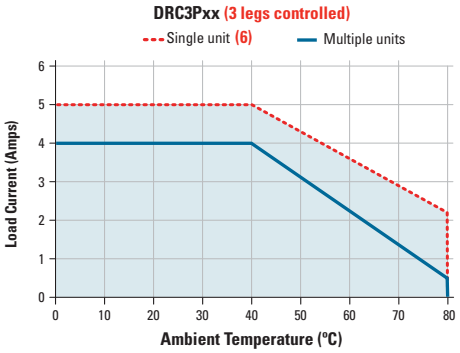


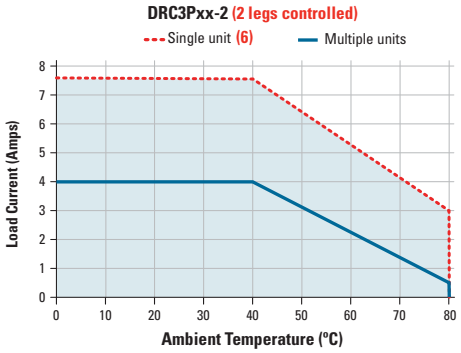


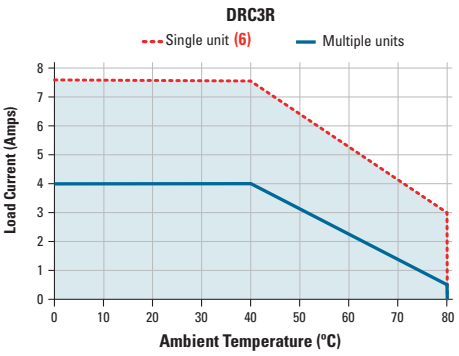


## GENERAL NOTES

(1) All parameters at 25°C unless otherwise specified.
(2) For DRC3P relay will self trigger between 900-1200V, Not suitable for capacitive loads
(3) Mounted in the Vertical position.
(4) For input to auxiliary output the dielectric strength is 2.5KV.
(5) For low temperature operation consider nominal control voltage.
(6) Minimum spacing to obtain max. current is 22mm between adjacent units.
(7) Reverse Amber Indicator is for DRC3R models only.
(8) For DRC3R the turn-on time is 100ms ± 30ms. For DRC3P Instantaneous Turn-on, Option D, turn-on time is 4 msec.
(9) When is complete removed the control signal. For DRC3R the turn-off time is 20ms.
(10) When protected with J Class fuses rated 600 VAC, 20 A or equivalent
(11) Operating voltage range 18-30 VDC is also valid when used to latch the DRC contactor control input.
(12) Derate information is valid when DCR contactors are used with or without accessories, installed on top and/or bottom.
(13) For DRC3P models external loads can be connected in parallel to the control input.
(14) All parameters at 50% power rating and 100% duty cycle (contact Crydom tech support for detailed report).
(15) DRC3R internal safety interlock circuit prevents the product to work if any leakage current is present in the control input currently not enabled.


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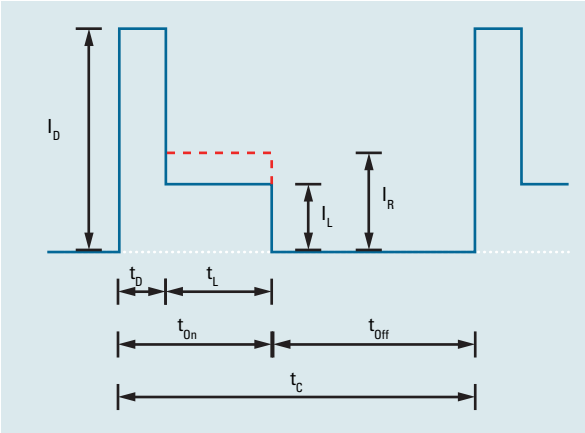
## SWITCHING FREQUENCY/LOAD CHARACTERISTIC FOR ALL DEVICES

$I_L$ : Load Operating Current
$I_R$ : Rated Full Load Current [FLA]
$I_D$ : Direct-On-Line Inrush Current
$t_L$ : Load Operating Current Time
$t_D$ : Direct-On-Line Inrush Current Time
$t_C$ : Cycle Time
$t_{On}$ : On Time
$t_{Off}$ : Off Time




## MAXIMUM ALLOWABLE NUMBER OF STARTS PER HOUR DEPENDING ON THE STARTING TIME $t_D$ AND THE ON PERIOD $t_{On}$ (as for standard IEC 60947-4-2) FOR ALL DEVICES

Without overload relay (limit given by the contactor itself)

**Table 1**
• High inrush current ($I_D/I_R$ = 4 to 7.2)
• Full load ($I_L/I_R$= 1)

| | $t_{On}$ (sec) | | | |
|---|---|---|---|---|
| $t_D$ (sec) | 0.1 | 1 | 10 | 100 |
| 0.05 | 5000 | 2700 | 350 | 35 |
| 0.1 | 3200 | 1950 | 350 | 35 |
| 0.2 | - | 950 | 320 | 35 |
| 0.4 | - | 500 | 280 | 35 |
| 0.8 | - | 290 | 160 | 35 |
| 1.6 | - | - | 110 | 30 |
| 3.2 | - | - | 75 | 25 |

**Table 2**
• High inrush current ($I_D/I_R$ = 4 to 7.2)
• 60% load ($I_L/I_R$= 0.6)

| | $t_{On}$ (sec) | | | |
|---|---|---|---|---|
| $t_D$ (sec) | 0.1 | 1 | 10 | 100 |
| 0.05 | 6000 | 3550 | 350 | 35 |
| 0.1 | 4100 | 3000 | 350 | 35 |
| 0.2 | - | 1300 | 350 | 35 |
| 0.4 | - | 700 | 320 | 35 |
| 0.8 | - | 400 | 320 | 35 |
| 1.6 | - | - | 125 | 35 |
| 3.2 | - | - | 90 | 35 |

**Table 3**
• Low inrush current ($I_D/I_R$ < 4 )
• Full load ($I_L/I_R$= 1)

| | $t_{On}$ (sec) | | | |
|---|---|---|---|---|
| $t_D$ (sec) | 0.1 | 1 | 10 | 100 |
| 0.05 | 7450 | 3200 | 350 | 35 |
| 0.1 | 4050 | 2100 | 350 | 35 |
| 0.2 | - | 1200 | 350 | 35 |
| 0.4 | - | 650 | 320 | 35 |
| 0.8 | - | 350 | 280 | 35 |
| 1.6 | - | - | 180 | 35 |
| 3.2 | - | - | 90 | 35 |

**Table 4**
• Low inrush current ($I_D/I_R$ < 4 )
• 60% load ($I_L/I_R$= 0.6)

| | $t_{On}$ (sec) | | | |
|---|---|---|---|---|
| $t_D$ (sec) | 0.1 | 1 | 10 | 100 |
| 0.05 | 9000 | 3550 | 350 | 35 |
| 0.1 | 5400 | 3550 | 350 | 35 |
| 0.2 | - | 1700 | 350 | 35 |
| 0.4 | - | 850 | 350 | 35 |
| 0.8 | - | 560 | 350 | 35 |
| 1.6 | - | - | 240 | 35 |
| 3.2 | - | - | 180 | 35 |

With overload relay (limit given by the overload relay itself)

**Table 5**
• High inrush current ($I_D/I_R$ = 4 to 7.2)
• Full load ($I_L/I_R$= 1)

| | $t_{On}$ (sec) | | | |
|---|---|---|---|---|
| $t_D$ (sec) | 0.1 | 1 | 10 | 100 |
| 0.05 | 2200 | 1650 | 330 | 30 |
| 0.1 | 1500 | 1000 | 280 | 28 |
| 0.2 | - | 550 | 255 | 26 |
| 0.4 | - | 250 | 150 | 24 |
| 0.8 | - | 80 | 60 | 20 |
| 1.6 | - | - | 40 | 16 |
| 3.2 | - | - | | |

**Table 6**
• High inrush current ($I_D/I_R$ = 4 to 7.2)
• 60% load ($I_L/I_R$= 0.6)

| | $t_{On}$ (sec) | | | |
|---|---|---|---|---|
| $t_D$ (sec) | 0.1 | 1 | 10 | 100 |
| 0.05 | 2800 | 1800 | 320 | 35 |
| 0.1 | 1700 | 1300 | 310 | 32 |
| 0.2 | - | 650 | 290 | 30 |
| 0.4 | - | 300 | 200 | 26 |
| 0.8 | - | 200 | 90 | 25 |
| 1.6 | - | - | 65 | 25 |
| 3.2 | - | - | - | - |

**Table 7**
• Low inrush current ($I_D/I_R$ < 4 )
• Full load ($I_L/I_R$= 1)

| | $t_{On}$ (sec) | | | |
|---|---|---|---|---|
| $t_D$ (sec) | 0.1 | 1 | 10 | 100 |
| 0.05 | 5150 | 2800 | 260 | 35 |
| 0.1 | 2850 | 1920 | 250 | 34 |
| 0.2 | - | 1100 | 250 | 33 |
| 0.4 | - | 600 | 200 | 32 |
| 0.8 | - | 320 | 200 | 30 |
| 1.6 | - | - | 120 | 25 |
| 3.2 | - | - | 75 | 20 |

**Table 8**
• Low inrush current ($I_D/I_R$ < 4 )
• 60% load ($I_L/I_R$= 0.6)

| | $t_{On}$ (sec) | | | |
|---|---|---|---|---|
| $t_D$ (sec) | 0.1 | 1 | 10 | 100 |
| 0.05 | 5600 | 3200 | 350 | 35 |
| 0.1 | 3200 | 2700 | 350 | 35 |
| 0.2 | - | 1400 | 350 | 35 |
| 0.4 | - | 700 | 350 | 35 |
| 0.8 | - | 350 | 280 | 35 |
| 1.6 | - | - | 170 | 35 |
| 3.2 | - | - | 80 | 25 |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## SHORT CIRCUIT AND OVERLOAD PROTECTION FOR ALL DEVICES
**(Conforming to the IEC60947-4-2 and UL508)**

**IEC standard 60947-4-1** make a distinction between two different types of protection, (called "coordination"), which are designated types "1" and "2".
Any short-circuit that occurs is cleared safely by either type of coordination.
The only difference between the 2 categories concerns the extent of the SSR damage caused by the short-circuit.

**Type "1"** coordination requires that in the event of a short-circuit, the Solid State Contactor does not endanger personnel or installations, but permanent damage to the SSC is permissible. In this case the SSC may need to be replaced. For this type of co-ordination, the use of fusing or circuit breakers adequate to protect the system and wiring from short circuits, (but not specifically considering SSC protection), can be used.

**Type "2"** coordination requires that under a short-circuit condition, the circuit is interrupted, the SSC does not endanger persons or installations, and in addition the SSR will be able to operate after the fault condition is repaired.

### Type of coordination 1

**Protection by Thermal Magnetic Circuit Breaker**

| Nominal Motor Current | Thermal Magnetic Circuit Breaker (Schneider Electric) | Solid State Contactor 2 controlled legs | Solid State Contactor 3 controlled legs | Solid State Contactor Reversing |
|---|---|---|---|---|
| 0.40-0.63 A | GV2ME04 / GV2P04 | DRC3Pxxx4xxx2 | DRC3Pxxx4xxx | DRC3Rxxx4xx |
| 0.63-1 A | GV2ME05 / GV2P05 | DRC3Pxxx4xxx2 | DRC3Pxxx4xxx | DRC3Rxxx4xx |
| 1-1.6 A | GV2ME06 / GV2P06 | DRC3Pxxx4xxx2 | DRC3Pxxx4xxx | DRC3Rxxx4xx |
| 1.6-2.5 A | GV2ME07 / GV2P07 | DRC3Pxxx4xxx2 | DRC3Pxxx4xxx | DRC3Rxxx4xx |
| 2.5-4 A | GV2ME08 / GV2P08 | DRC3Pxxx4xxx2 | DRC3Pxxx4xxx | DRC3Rxxx4xx |
| 4-6.3 A | GV2ME10 / GV2P10 | DRC3Pxxx4xxx2 | DRC3Pxxx4xxx (up to 4.8A) | DRC3Rxxx4xx |
| 6.3-10 A | GV2ME14 / GV2P14 | DRC3Pxxx4xxx2 (up to 7.6A) | - | DRC3Rxxx4xx (up to 7.6A) |

**Protection by overload relays and fuses**

| Nominal Motor Current | Overload Relay (Schneider Electric) | Class gG fuses (example from Littlefuse) | Solid State Contactor 2 controlled legs | Solid State Contactor 3 controlled legs | Solid State Contactor Reversing |
|---|---|---|---|---|---|
| 0.40-0.63 A | LRD04 | CY14X51G16 | DRC3Pxxx4xxx2 | DRC3Pxxx4xxx | DRC3Rxxx4xx |
| 0.63-1 A | LRD05 | CY14X51G16 | DRC3Pxxx4xxx2 | DRC3Pxxx4xxx | DRC3Rxxx4xx |
| 1-1.6 A | LRD06 | CY14X51G25 | DRC3Pxxx4xxx2 | DRC3Pxxx4xxx | DRC3Rxxx4xx |
| 1.6-2.5 A | LRD07 | CY14X51G25 | DRC3Pxxx4xxx2 | DRC3Pxxx4xxx | DRC3Rxxx4xx |
| 2.5-4 A | LRD08 | CY14X51G25 | DRC3Pxxx4xxx2 | DRC3Pxxx4xxx | DRC3Rxxx4xx |
| 4-6.3 A | LRD10 | CY14X51G40 | DRC3Pxxx4xxx2 | DRC3Pxxx4xxx (up to 4.8A) | DRC3Rxxx4xx |
| 6.3-10 A | LRD14 | CY14X51G40 | DRC3Pxxx4xxx2 (up to 7.6A) | - | DRC3Rxxx4xx (up to 7.6A) |

### Type of coordination 2

**Protection by overload relays and fuses**

| Nominal Motor Current | Overload Relay (Schneider Electric) | Semiconductor fuses with less than 1621A2S | | | Solid State Contactor 2 controlled legs | Solid State Contactor 3 controlled legs | Solid State Contactor Reversing |
|---|---|---|---|---|---|---|---|
| | | Littlefuse | SIBA (Cylindric) | Ferraz (Cylindric) | | | |
| 0.40-0.63 A | LRD04 | LA50QS40-4 | 50.058.06.40 | A093909 | DRC3Pxxx4xxx2 | DRC3Pxxx4xxx | DRC3Rxxx4xx |
| 0.63-1 A | LRD05 | LA50QS40-4 | 50.058.06.40 | A093909 | DRC3Pxxx4xxx2 | DRC3Pxxx4xxx | DRC3Rxxx4xx |
| 1-1.6 A | LRD06 | LA50QS40-4 | 50.058.06.40 | A093909 | DRC3Pxxx4xxx2 | DRC3Pxxx4xxx | DRC3Rxxx4xx |
| 1.6-2.5 A | LRD07 | LA50QS40-4 | 50.058.06.40 | A093909 | DRC3Pxxx4xxx2 | DRC3Pxxx4xxx | DRC3Rxxx4xx |
| 2.5-4 A | LRD08 | LA50QS40-4 | 50.058.06.40 | A093909 | DRC3Pxxx4xxx2 | DRC3Pxxx4xxx | DRC3Rxxx4xx |
| 4-6.3 A | LRD10 | LA50QS40-4 | 50.058.06.40 | A093909 | DRC3Pxxx4xxx2 | DRC3Pxxx4xxx (up to 4.8A) | DRC3Rxxx4xx |
| 6.3-10 A | LRD14 | LA50QS40-4 | 50.058.06.40 | A093909 | DRC3Pxxx4xxx2 (up to 7.6A) | - | DRC3Rxxx4xx (up to 7.6A) |

**Note:** All the Schneider Electric Thermal magnetic circuit breakers GV2 family (GV2ME and GV2P) is fully mechanical compatible with the DRC contactor using the GV2AF3 connection block.
All the Schneider Electric Overload relay LRD family is fully mechanical compatible with the DRC contactor without the need of any adapter.
The DRC Series can accept the LAD7C1 module (pre-wiring kit allowing direct connection of the NC contact of relay LRD to the contactor)
When the LAD7C1 module is used, the common terminal for the control input is not anymore the "A2" terminal of DRC but it is the "96" terminal of the overload relay.


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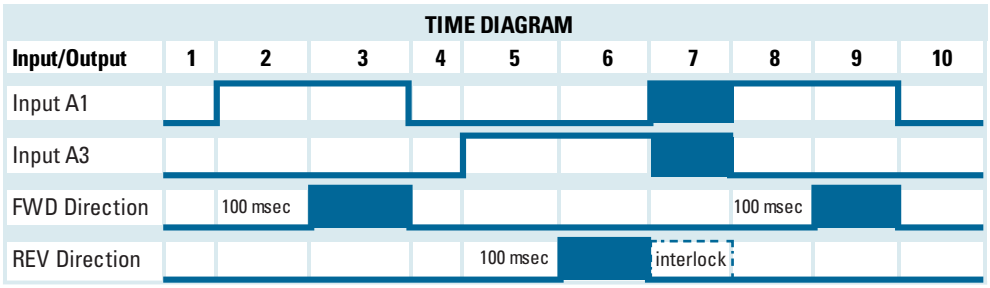
## TIMING DIAGRAM FOR DRC3R




| STEP | DESCRIPTION |
|---|---|
| 1, 4, 10 | Initial Condition A1 & A3 open |
| 2 | A1 is activated, FWD Output wait for 100ms |
| 3, 9 | FWD direction is activated |
| 4 | A1 change to off. FWD Output is desable at the same time |
| 5 | A3 is activated REV Output wait for 100ms |
| 6 | REV direction is On |
| 7 | Interlock fuction is activated. REV is desable due to A1 & A3 are both activated |
| 8 | A3 is open, A1 close, begin 100ms delay |

| Input A1 | Input A3 | | |
|---|---|---|---|
| | | FWD | REV |
| Open | Open | Off | Off |
| Close | Open | On | Off |
| Open | Close | Off | On |
| Close | Close | Off | Off |

## AGENCY APPROVALS

Certification in accordance with:
United States Standard for Industrial Control Equipment - UL 508 and
Canadian Standard Association for Industrial Control Equipment – C22.2 No. 14.
China Compulsory Certification for AC Semiconductor Motor Controller-GB14048.6-2008

DRC3 series conforms to the harmonized EN standard EN/IEC 60947-4-2

Electromagnetic Compatibility:
IEC 61000-4-2 : Electrostatic Discharge – Level 3
IEC 61000-4-4 : Electrically Fast Transients – Level 3
IEC 61000-4-5 : Electrical Surges – Level 3

Vibration Resistance:
IEC 60068-2-6 : Amplitude Range 10-55 Hz, Displacement 0.75mm

Shock Resistance:
IEC 60068-2-27 : Peak Acceleration 15g, Duration11ms.

c UL us E116949 LISTED

SOLICON DRC series have Environmental Product declarations type III conforming to ISO 14025.

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## ACCESSORIES FOR ALL DEVICES

### Recommended Accessories

| Motor Nominal Current | Bimetal Overload Relay | Electronic Overload Relay | Thermal Magnetic Circuit Breaker (Push Button) | Thermal Magnetic Circuit Breaker (Selector) |
|---|---|---|---|---|
| 0.40 - 0.63 A | LRD04 | LR97 D015xx | GV2ME04 | GV2P04 |
| 0.63 - 1 A | LRD05 | LR97 D015xx | GV2ME05 | GV2P05 |
| 1 - 1.6 A | LRD06 | LR97 D07xx | GV2ME06 | GV2P06 |
| 1.6 - 2.5 A | LRD07 | LR97 D07xx | GV2ME07 | GV2P07 |
| 2.5 - 4 A | LRD08 | LR97 D07xx | GV2ME08 | GV2P08 |
| 4 - 6.3 A | LRD10 | LR97 D25xx | GV2ME10 | GV2P10 |
| 6.3 - 10 A | LRD14 | LR97 D25xx | GV2ME14 | GV2P14 |
| Fully compatible with Schneider Electric thermal overload relays & thermal magnetic circuit breakers | | | | |

**Note:** All the Schneider Electric Thermal magnetic circuit breakers GV2 family (GV2ME and GV2P) is fully mechanical compatible with the DRC contactor using the GV2AF3 connection block.
All the Schneider Electric Overload relay LRD family is fully mechanical compatible with the DRC contactor without the need of any adapter.
The DRC Series can accept the LAD7C1 module (pre-wiring kit allowing direct connection of the NC contact of relay LRD to the contactor)
When the LAD7C1 module is used, the common terminal for the control input is not anymore the "A2" terminal of DRC but it is the "96" terminal of the overload relay.

## *ID Marker Strips*
## CNLB, CNLN, CNL2

Packages of 10 plastic strips comprising 10 individual markers which can be placed for easy identifications during the use of multiple units.

***Blank Strips***
Part no.: CNLB

***Numbered 1 to 10 Strips***
Part no.: CNLN

***Numbered 11 to 20 Strips***
Part no.: CNL2


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## ⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / 危险

**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 dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen.

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

**RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE.**

- Spenga tutta l'alimentazione che fornisce questa apparecchiatura 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**

**存在电击、爆炸或电弧闪烁危险**

- 在操作此设备之前请先关闭电源。

**若不遵守这些说明，可能会导致严重的人身伤害甚至死亡。**

## ⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / 警告

**RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE**

- The product's side panels may be hot, allow the product to cool before touching.
- Follow proper mounting instructions including torque values.
- Do not allow liquids or foreign objects to enter this product.

**Failure to follow these instructions can result in serious injury, or equipment damage.**

**RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER**

- Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher.
- Respecter les consignes de montage, et notamment les couples de serrage.
- Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit.

**Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.**

**GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG**

- Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren.
- Beachten Sie die Montageanweisungen,
- Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein.

**Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.**

**RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD**

- Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo.
- Respetar las instrucciones de montaje, y en particular los pares de apretado.
- No dejar que penetren líquidos o cuerpos extraños en el producto.

**Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.**

**RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO**

- I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo.
- Seguire le istruzioni di montaggio corrette.
- Non far entrare liquidi o oggetti estranei in questo apparecchio.

**La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.**

**材料损坏和高温外壳的危险性**

- 产品的一侧面板可能很热，在其冷却前请不要触碰。
- 遵照正确的安装说明，包括扭矩值。
- 请勿让液体及其他异物进入本产品。

**如不能正确执行这些操作说明，极有可能造成严重人体伤害或者设备的损坏。**



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## ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

| Part Name | Toxic or hazardous Substance and Elements | | | | | |
|---|---|---|---|---|---|---|
| | Lead (Pb) | Mercury (Hg) | Cadmium (Cd) | Hexavalent Chromium (Cr (VI)) | Polybrominated biphenyls (PBB) | Polybrominated diphenyl ethers (PBDE) |
| Semiconductor die | X | O | O | O | O | O |
| Solder | X | O | O | O | O | O |

## 附件 - 环保信息

此附件所标示的包括电子信息产品污染图标的环保信息符合中华人民共和国电子行业标准 SJ/T11364 - 2006, 电子信息产品污染控制标识要求。

| 部件名称 | 有毒有害物质或元素 | | | | | |
|---|---|---|---|---|---|---|
| | 铅 (Pb) | 汞 (Hg) | 镉 (Cd) | 六价铬 (Cr (VI)) | 多溴联苯 (PBB) | 多溴二苯醚 (PBDE) |
| 半导体芯片 | X | O | O | O | O | O |
| 焊接点 | X | O | O | O | O | O |

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