



| DRA3P SERIES

DIN RAIL MOUNT



Features

- 2.4 & 4.2 Amp rated Solid State Contactor
- Load voltage range of 48-510 VAC, 3-Phase
- Fits standard 35mm DIN-RAIL
- LED input status indicator
- AC or DC control
- Zero-crossing (resistive loads) or instantaneous turn-on (inductive loads) output
- cUL Recognized, IEC Rated, CE, CCC & RoHS Compliant, Horsepower Rated
- Built in Overvoltage Protection



PRODUCT SELECTION

| Control Voltage | 2.4A | 4.2A |
|-----------------------|-----------|-----------|
| 4 - 6 VDC Control | DRA3P48D2 | DRA3P48D4 |
| 18 - 28 VDC Control | DRA3P48E2 | DRA3P48E4 |
| 36 - 60 VAC Control | DRA3P48C2 | DRA3P48C4 |
| 90 - 140 VAC Control | DRA3P48B2 | DRA3P48B4 |
| 200 - 265 VAC Control | DRA3P48A2 | DRA3P48A4 |



SPECIFICATIONS

AC Output ⁽¹⁾

| Description | 2.4A | 4.2A |
|---|-----------|-----------|
| Operating Voltage (47-63Hz) [Vrms] | 48 - 510 | 48 - 510 |
| Rated Operating Voltage (Vrms) | 480 | 480 |
| Transient Overvoltage [Vpk] ⁽²⁾ | 1200 | 1200 |
| Maximum Resistive Load Current UL/AC51 [Arms] ^{(3) (8)} | 2.4 / 2.4 | 4.2 / 2.4 |
| Maximum Motor Load Current UL/AC53 [Arms] ^{(3) (4)} | 2.1 / 2.1 | 3.4 / 2.1 |

| Description | 2.4A | 4.2A |
|---|----------------------|----------------------|
| Maximum Load Current [Arms] | 0.15 | 0.15 |
| Maximum Off-State Leakage Current @ Rated Voltage [mArms] | 1.0 | 1.0 |
| Maximum Off-State dv/dt @ Rated Voltage [V/μsec] | 500 | 500 |
| Maximum On-State Voltage Drop @ Rated Current [Vrms] | 1.15 per Channel | 1.15 per Channel |
| Maximum Surge Current (50/60 Hz, 1 cycle) [Apk] | 410 / 375 | 410 / 375 |
| HP/IEC 60947 Rating @ 240V, 40°C [HP/KW] ⁽⁵⁾ | 0.5 / 0.37 | 0.75 / 0.37 |
| HP/IEC 60947 Rating @ 380V, 40°C [HP/KW] ⁽⁶⁾ | 1.0 / 0.75 | 1.5 / 0.75 |
| HP/IEC 60947 Rating @ 480V, 40°C [HP/KW] ⁽⁷⁾ | 1.0 / 0.75 | 2.0 / 0.75 |
| Minimum Power Factor (with Maximum Load) | 0.5 | 0.5 |
| Min/Max Stranded/Solid Wire [AWG] | 24 / 10 | 24 / 10 |
| Min/Max Stranded/Solid Wire [IEC mm ²] | 0.5 - 4.0 | 0.5 - 4.0 |
| Load Terminal Screw Torque Range | 12.0 in lb (1.36 Nm) | 12.0 in lb (1.36 Nm) |

Input ⁽¹⁾

| Description | DRA3P48Dx | DRA3P48Ex | DRA3P48Cx | DRA3P48Bx | DRA3P48Ax |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|
| Control Voltage Range | 4 - 6 VDC | 18 - 28 VDC | 36 - 60 VAC | 90 - 140 VAC | 200 - 265 VAC |
| Rated Input Control Voltage | 5 VDC | 24 VDC | 48 VAC | 120 VAC | 230 VAC |
| Minimum Turn-On Voltage | 4 VDC | 18 VDC | 36 VAC | 90 VAC | 200 VAC |
| Minimum Turn-Off Voltage | 2 VDC | 4 VDC | 10 VAC | 20 VAC | 60 VAC |
| Minimum Input Current [mA] | 17 | 15 | 7.5 | 5 | 4.5 |
| Maximum Input Current [mA] | 35 | 25 | 13.5 | 8 | 5.7 |
| Nominal Input Impedance [Ohms] | 120 | 1.2K | 4.2K | 16K | 46K |
| Maximum Turn-on Time ⁽⁹⁾ | ½ Cycle | ½ Cycle | 20 ms | 20 ms | 20 ms |
| Maximum Turn-Off Time | ½ Cycle | ½ Cycle | 30 ms | 30 ms | 30 ms |
| Min / Max Stranded/Solid Wire [AWG] | 24 / 12 | 24 / 12 | 24 / 12 | 24 / 12 | 24 / 12 |
| Min / Max Stranded/Solid Wire [IEC mm ²] | 0.5 - 2.5 | 0.5 - 2.5 | 0.5 - 2.5 | 0.5 - 2.5 | 0.5 - 2.5 |
| Control Terminal Screw Torque Range | 4.3 in lb (0.485 Nm) | 4.3 in lb (0.485 Nm) | 4.3 in lb (0.485 Nm) | 4.3 in lb (0.485 Nm) | 4.3 in lb (0.485 Nm) |

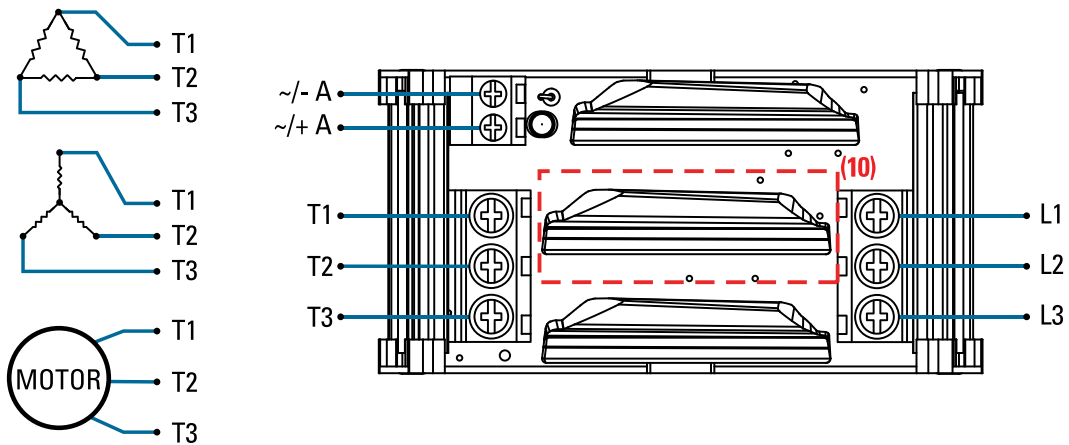
General ⁽¹⁾

| Description | Parameters |
|--|---------------------------|
| Dielectric Strength, Input to Output (50/60 Hz) | 3750 Vrms |
| Minimum Insulation Resistance (@ 500 V DC) | 10 ⁹ Ohm |
| Maximum Capacitance, Input/Output | 20 pF |
| Ambient Operating Temperature Range | -20 to 60°C |
| Ambient Storage Temperature Range | -40 to 85°C |
| LED Status Indicator for Control Input | On: Green |
| Weight (Typical) | 4.75 oz (135 g) |
| Housing Material (Bottom Cover) | PVC Class V0 (UL94) |
| Housing Material (End Pieces) | Polyamide Class V0 (UL94) |

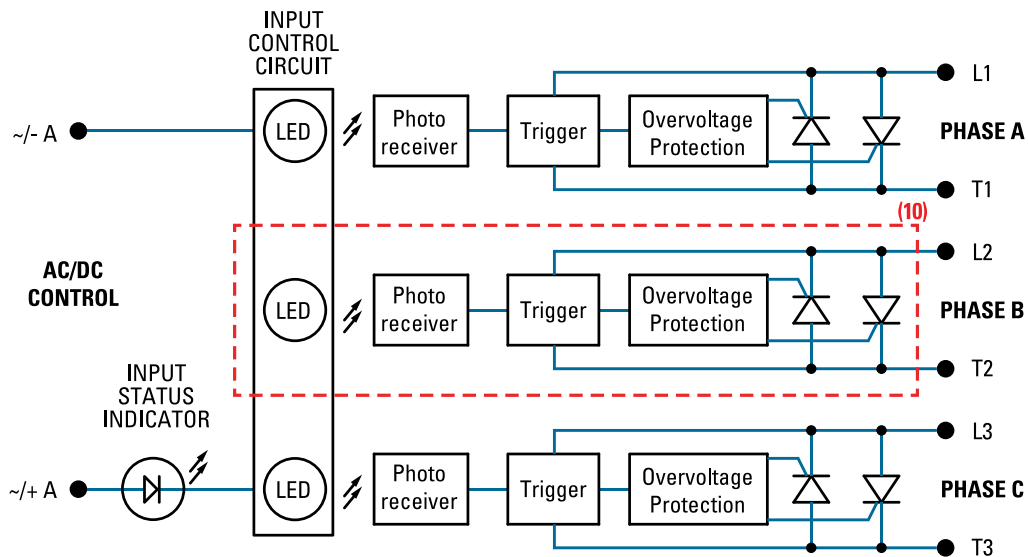


DIAGRAMS

Wiring Diagram



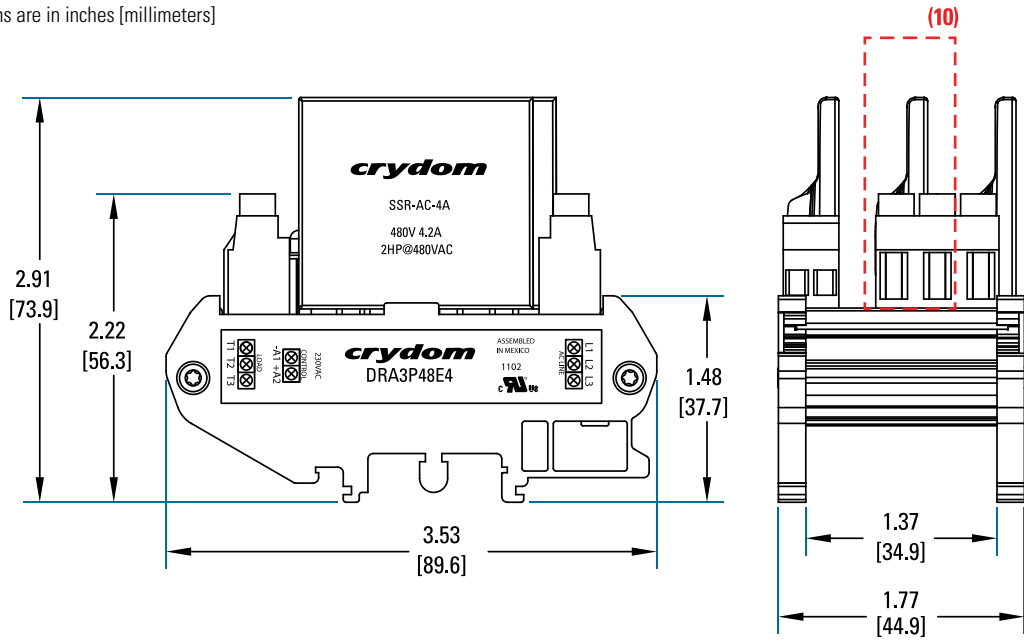
Block Diagram



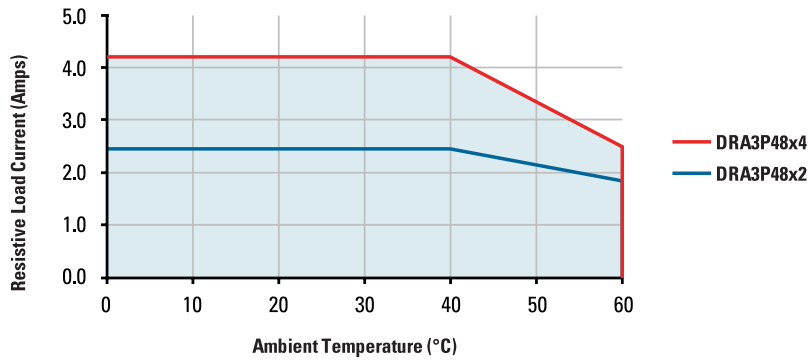


MECHANICAL SPECIFICATIONS

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



THERMAL DERATE INFORMATION



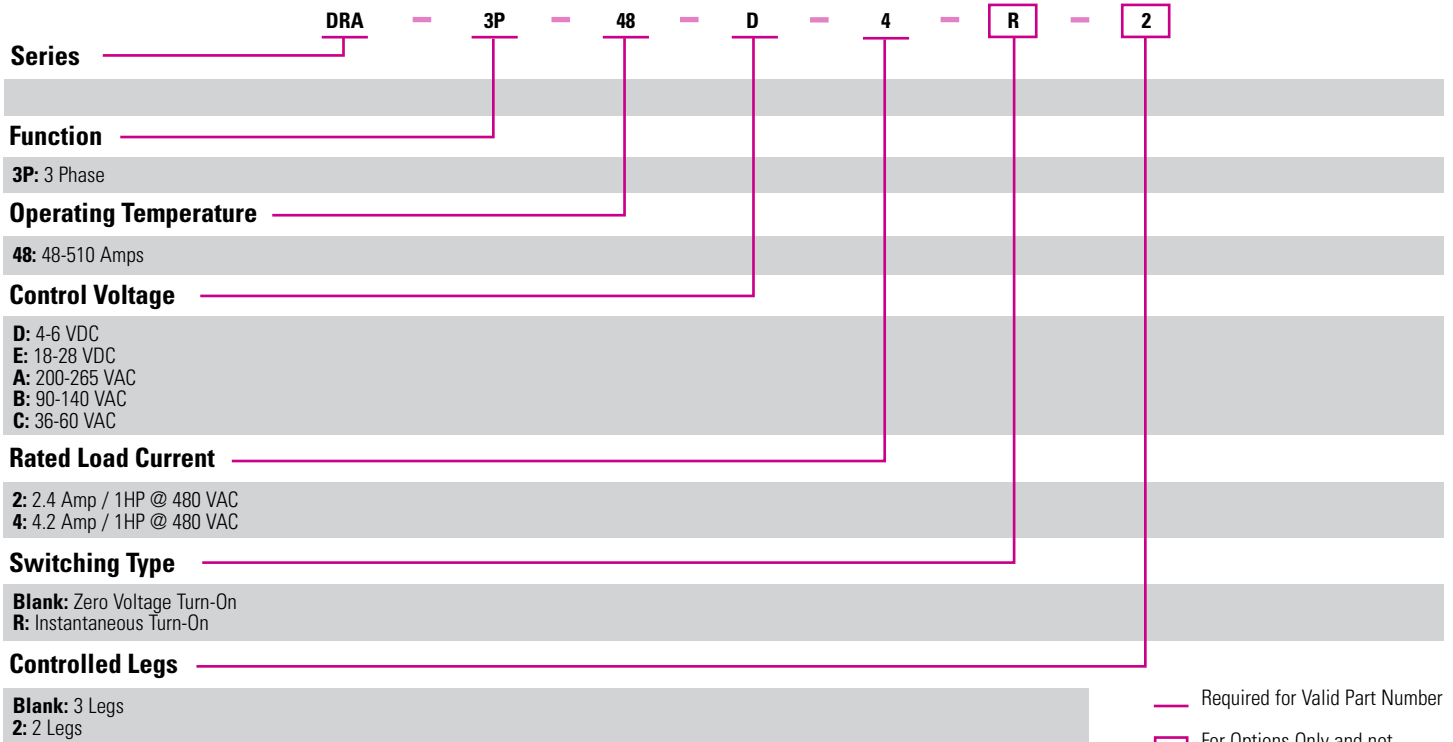
Ratings based on single or multiple relays and no spacing between units except AC control which is 3.4 A rating 45mm spacing must be used.



ORDERING OPTIONS

Example : DRA3P48D4R2

3 Phase Function, 48-510 VAC Operating Voltage, 4-6 VDC Control Voltage, 4.2 Amp/ 2HP @ 480 VAC Rated Load Current, Instantaneous Turn-On Switching Type, 2 Controlled Legs



GENERAL NOTES

- (1) All parameters at 25 °C unless otherwise specified.
- (2) Relay will self trigger between 900-1200 Vpk. Not suitable for capacitive loads.
- (3) For AC control AC53 maximum current is 1.6A
- (4) Mounted in the vertical position (Din Rail in horizontal position).
- (5) For AC control, rating is ½ HP / 0.25 KW
- (6) For AC control, rating is 1 HP / 0.37 KW
- (7) For AC control, rating is 1 HP / 0.55 KW
- (8) Resistive Load Current rating for DRA3P48x4 (A,B & C suffix only) is 3.4 A
- (9) Turn-on time for DC control instantaneous turn-on versions is 0.1 msec.
- (10) Three Controlled legs versions only. Otherwise L2-T2 are connected internally.

For additional information or specific questions, contact Sensata Technical Support.



AGENCY APPROVALS & CERTIFICATIONS



- UL: E116950
- CCC: Except DRA3P48xxx2)



WARNINGS



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.



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.

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