



## | 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 <sup>(1)</sup>

Description	2.4A	4.2A
Operating Voltage (47-63Hz) [Vrms]	48 - 510	48 - 510
Rated Operating Voltage (Vrms)	480	480
Transient Overvoltage [Vpk] <sup>(2)</sup>	1200	1200
Maximum Resistive Load Current UL/AC51 [Arms] <sup>(3) (8)</sup>	2.4 / 2.4	4.2 / 2.4
Maximum Motor Load Current UL/AC53 [Arms] <sup>(3) (4)</sup>	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] <sup>(5)</sup>	0.5 / 0.37	0.75 / 0.37
HP/IEC 60947 Rating @ 380V, 40°C [HP/KW] <sup>(6)</sup>	1.0 / 0.75	1.5 / 0.75
HP/IEC 60947 Rating @ 480V, 40°C [HP/KW] <sup>(7)</sup>	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 <sup>2</sup> ]	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 <sup>(1)</sup>

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 <sup>(9)</sup>	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 <sup>2</sup> ]	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)

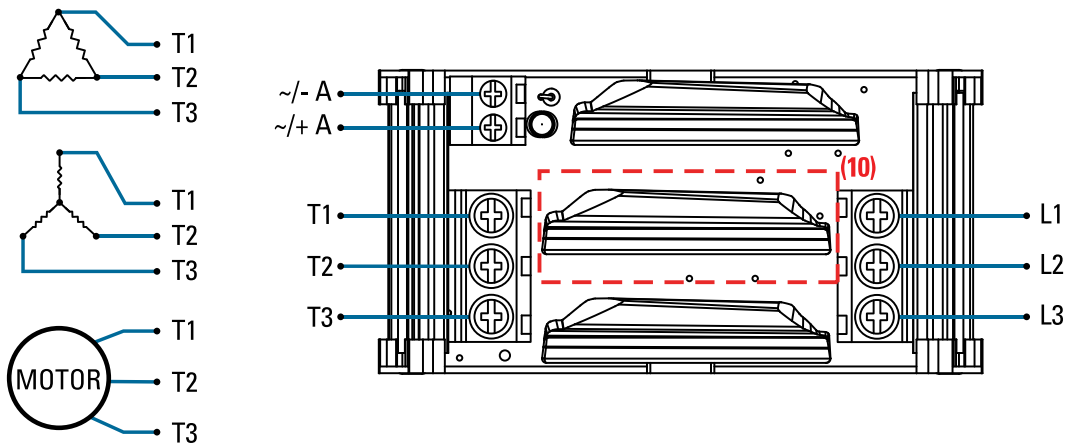
## General <sup>(1)</sup>

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

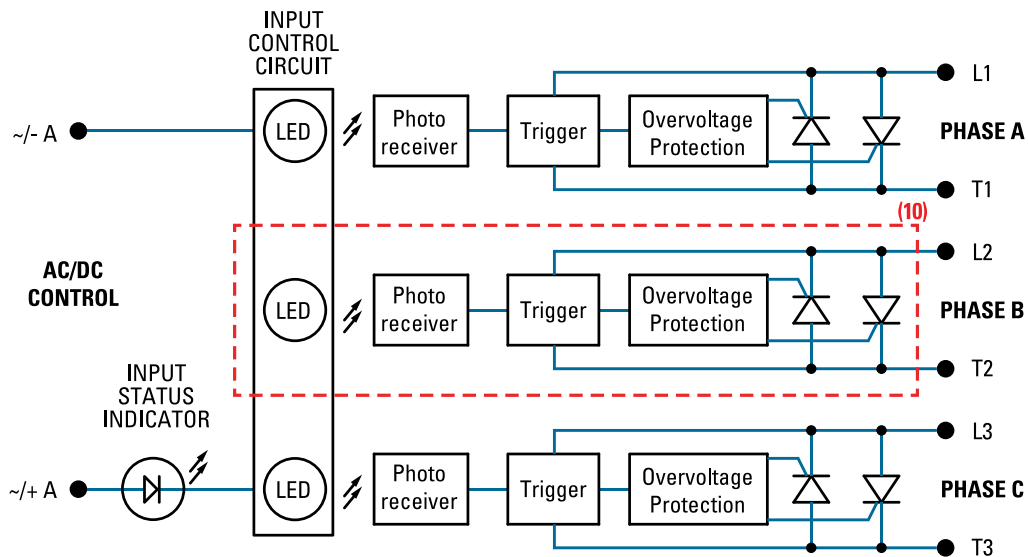


## DIAGRAMS

### Wiring Diagram



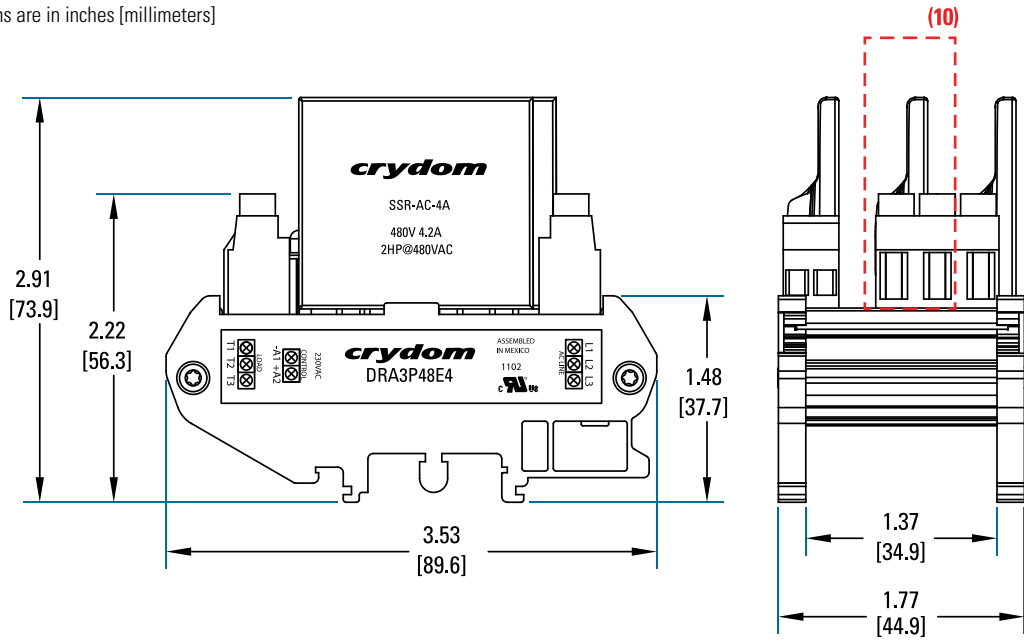
### Block Diagram



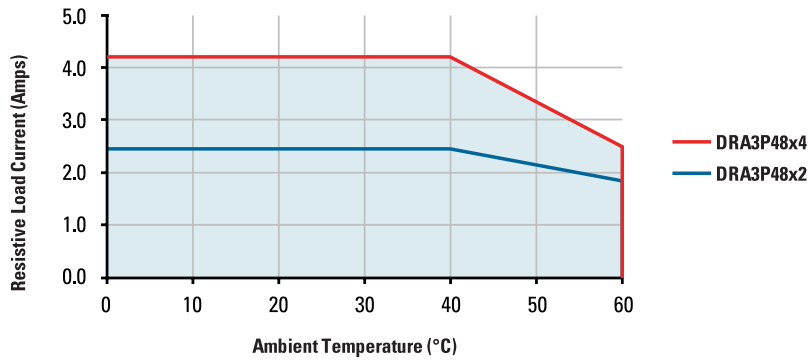


## MECHANICAL SPECIFICATIONS

Tolerances:  $\pm 0.02$  in / 0.5 mm  
All dimensions are in inches [millimeters]



## THERMAL DERATE INFORMATION



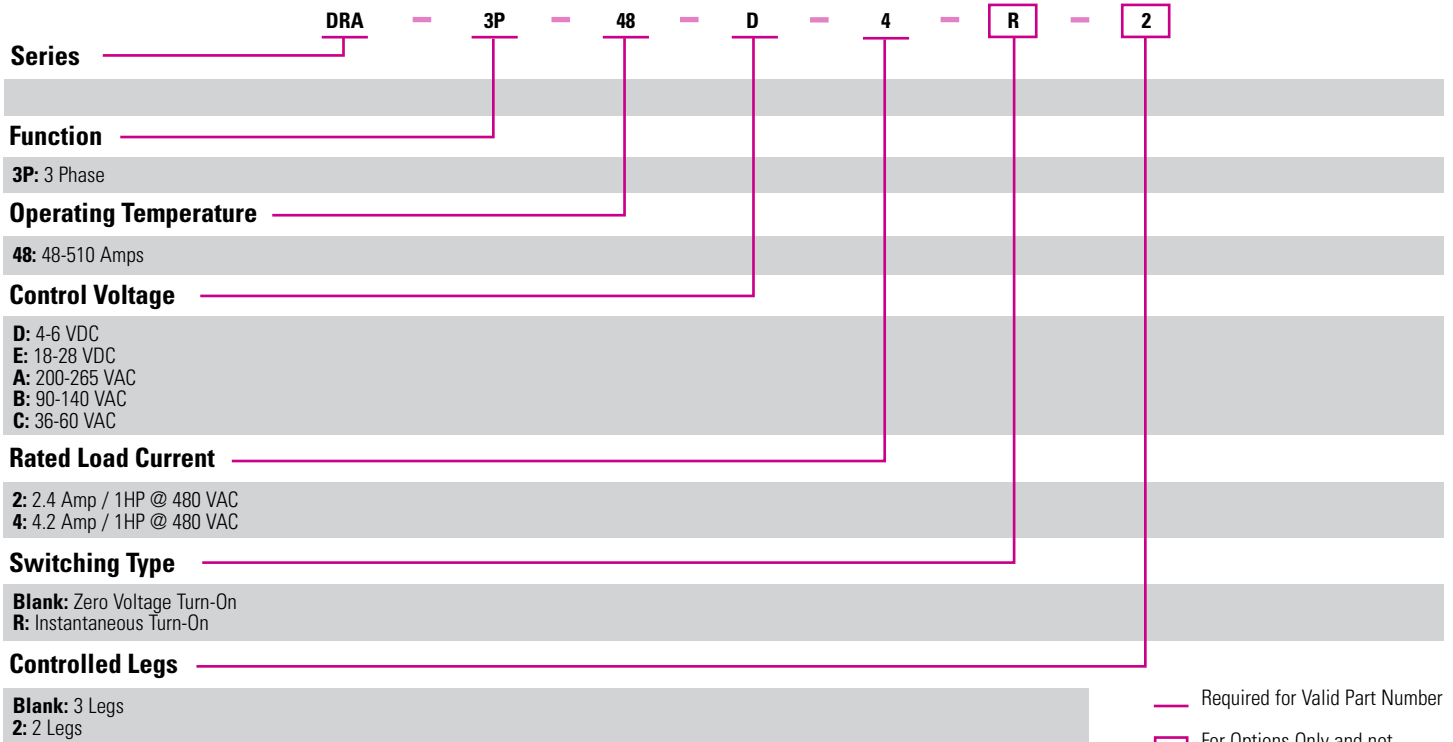
Ratings based on single or multiple relays and no spacing between units except AC control which is 3.4 A rating 45mm spacing must be used.



## 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)