

PRD series

10 to 50 Amp Heavy Duty AC or DC Power Relay

Ⓛ File E22575 (Models With All Screw Terminals)

Ⓡ File E22575 (All Others)

Ⓢ File 15734

Users should thoroughly review the technical data before selecting a product part number. It is recommended that users also seek out the pertinent approvals files of the agencies/laboratories and review them to ensure the product meets the requirements for a given application.

Features

- Contact ratings to 50 amps.
- Magnetic blowouts available for switching DC loads.
- Arrangements to DPDT.
- SPDT auxiliary switch available.
- Replaces PR series.

Contact Data @ 25°C

Arrangements: Available to 2 Form C (DPDT). See ordering information.

Ratings: See UL contact rating tables.

Minimum Rating: 1A @ 12 VAC/VDC.

Material: Silver and silver-cadmium oxide standard. Other materials available for special applications.

Expected Life: 100,000 operations at rated loads @25°C. Specific exceptions are noted in ratings tables. Life increases at reduced loads or with appropriate arc suppression.

UL/CSA Contact Ratings

Models with Screws or Quick Connects as Main Terminals

Type	Contact Code	Contact Ratings
PRD-1, 3 or 5	Y	25 amps @ 277VAC 1 HP at 120VAC 2 HP at 250VAC 10 amps at 600VAC 7 amps at 50VDC Res.
PRD-1, 3 or 5	G	30 amps at 277VAC Res. 1.5 HP at 120VAC 2HP at 250VAC 10 amp at 600VAC
PRD-1, 3 or 5	F	50 amps at 240VAC Gen. Purp. (20,000 Ops.) 30 amps at 277VAC Res. 1.5 HP at 120VAC 2HP at 250VAC 10 amp at 600VAC
PRD-7 or 11	Y	25 amps at 240VAC 20 amps at 277VAC 1 HP at 120VAC 2 HP at 250VAC 7 amps at 50VDC Res. 10 amps at 600VAC
PRD-7 or 11	G	30 amps at 240VAC 20 amps at 277VAC 1.5 HP at 120VAC 2 HP at 250VAC 10 amps at 600VAC
PRD-7 or 11	F	50 amps at 240VAC Gen. Purp. (20,000 Ops.) 30 amps at 240VAC 20 amps at 277VAC 1.5 HP at 120VAC 2 HP at 250VAC 10 amps at 600VAC
PRD-3, 7 or 11	H or J	20 amp at 125VDC 1/3 HP at 125VDC
PRD-1, 5, 7 or 11	N	25 amp at 250VAC 1 HP at 125VAC 2 HP at 250VAC

Note: Any PRD relay deviating electrically or physically from the standard models in the table is not UL or CSA listed. All horsepower ratings are for single phase motors.

UL Contact Ratings

Models with Box Lugs as Main Terminals

Type	Contact Code	Contact Ratings
PRD-3AP4 PRD-3DP4	P	50 amps at 277VAC, Gen. Purp. 30 amps at 277VAC, Ballast (6,000 Ops.) 15 amps at 277VAC, Tungsten (6,000 Ops.) 102LRA, 17FLA at 240VAC (30,000 Ops.) 120LRA, 20FLA at 120VAC (30,000 Ops.) 1.5 HP at 120VAC (30,000 Ops.) 3 HP at 240VAC (30,000 Ops.)

Note: Any PRD relay deviating electrically or physically from the standard models in the table is not UL or CSA listed. All horsepower ratings are for single phase motors.

DC Factory Contact Ratings

Models with Box Lugs as Main Terminals

Type	Contact Code	Contact Ratings
PRD-3AR4 PRD-3DR4	R	60 amps at 28VDC Res. 30 amps at 125VDC

Auxiliary Snap-Action Switch

Arrangements: 1 Form C (SPDT).

Rating: 5 amps at 120VAC, 60 Hz. @ 25°C.

Material: Silver.

Initial Dielectric Strength

Initial Breakdown Voltage: 2,000V rms minimum between all elements and ground. (2,200V rms on 600V ratings.)

Coil Data @ 25°C

Voltage: From 6 to 220VDC, and 6 to 480VAC.

Resistance: See coil data table.

Nom. Power: DC coils: 2.0 watts @ 25°C.; **AC coils:** 9.8VA @ 25°C.

Max Power: DC coils: 8.0 watts @ 25°C.

Duty Cycle: Continuous.

Initial Insulation Resistance: 100 megohms, minimum.

Coil Data

DC Coils			AC Coils (50-60Hz.)		
Nominal Volts	Resistance In Ohms ±10% @ 25°C	Nominal DC Current In Milliamps	Nominal Volts	DC Resis. In Ohms ±15% @ 25°C	Nominal AC Current In Milliamps
6	18	333	6	.86	1600
12	71	169	12	3.2	820
24	288	84	24	12.0	410
48	1150	41.7	120	290	85
110	6050	18.2	240	1200	43
220	Use 110V relay with approx. 6,000 ohm 5W wire-wound resistor in series.		480	4500	22

Operate Data @ +25°C

Must-Operate Voltage: DC: 75% of nominal; AC: 85% of nominal.

Environmental Data

Temperature Range: AC: -55°C to +45°C.; DC: -55°C to +80°C.

Mechanical Data

Mounting: Two .187" (4.75mm) Dia. holes on 1.875" (47.63mm) centers.

Termination: See ordering information tables for various options.

Enclosure: Metal dust cover, 35D013, available. Order separately.

Weight: 10 oz. (284g) approximately.

Ordering Information for Models with Screws or Quick Connects for Main Terminals

	Typical Part No. ▶	PRD	-7	A	Y	0	-120
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1. Type:
PRD = Open relay.
PRDA = Open relay with aux. SPDT snap-action switch.

2. Main Contact Arrangement:
1 = SPST-NO 7 = DPST-NO
3 = SPST-NO-DM 7V = DPST-NO with 3mm contact gap
5 = SPDT 11=DPDT

3. Coil Input:
A = 50/60 Hz. D = DC

4. Main Contact Material:
Y = .312" (7.92mm) dia. silver. [25A max. rating]
G = .312" (7.92mm) dia. silver cad.-oxide. [30A max. rating]
F = .312" (7.92mm) dia. silver cad.-oxide. [50A max. rating]
†H = Silver w/magnetic blow out. [20A DC max. rating]
†J = Silver cad.-oxide w/magnetic blow out. [20A DC max. rating]
N = Tungsten stationary & silver cad.-oxide movable. [25A max. rating] Code 1, 5, 7 & 11 only.
†Available with Code 3, 7& 11 contact arrangement only.

5. Termination:

CODE	PRD			PRDA (With Aux. SPDT Snap-Action Switch)		
	0	1	3	A	B	L
MAIN	#8-32 Screw Term.	.250" (6.35mm) QC	#8-32 Screw Term.	#8-32 Screw Term.	.250" (6.35mm) QC	Twin .250" (6.35mm) QC
COIL	6-32 Screw Term.	.250" (6.35mm) QC	.250" (6.35mm) QC	#6-32 Screw Term.	.250" (6.35mm) QC	.250" (6.35mm) QC
AUX. SWITCH				Screw Term.	.250" (6.35mm) QC	.250" (6.35mm) QC

6. Coil Voltage:
6, 12, 24, 48, 110VDC
6, 12, 24, 120, 240, 480VAC, 50/60 Hz. Coil voltages are available to 125VDC and 600VAC.

Note: All part numbers are RoHS compliant.

Stock Items – The following items are normally maintained in stock for immediate delivery.

PRD-3AG0-120	PRD-5AY0-240	PRD-7DY0-12	PRD-11AY0-240	PRD-11DJ0-24
PRD-3AJ3-24	PRD-5DY0-12	PRD-7DY0-24	PRD-11AY0-480	PRD-11DY0-12
PRD-3AY0-120	PRD-5DY0-24	PRD-11AF0-240	PRD-11DF0-12	PRD-11DY0-24
PRD-3DY0-12	PRD-7AG0-120	PRD-11AG0-24	PRD-11DF0-110	PRD-11DY0-110
PRD-3DY0-24	PRD-7AY0-24	PRD-11AG0-120	RD-11DG0-12	PRDA-11AGA-120
PRD-5DF0-12	PRD-7AY0-120	PRD-11AG0-240	PRD-11DG0-24	PRDA-11AYA-120
PRD-5AY0-24	PRD-7AY0-240	PRD-11AH0-120	PRD-11DH0-12	
PRD-5AY0-120	PRD-7AY3-120	PRD-11AY0-24	PRD-11DH0-24	
PRD-5AY1-120	PRD-7DG0-24	PRD-11AY0-120	PRD-11DH0-110	

Ordering Information for 50A Models with Box Lugs for Main Terminals

	Typical Part No. ▶	PRD	-3	A	P	4	-120
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1. Type:
PRD = Open power relay.

2. Main Contact Arrangement:
3 = 1 Form X (SPST-NO-DM)

3. Coil Input:
A = AC, 50/60 Hz.
D = DC

4. Main Contact Material:
P = 50 amp, silver.
R = 50 amp, silver with magnetic blow out.

5. Termination:
4 = Main — boxlug terminals which accept #6-#14 wire.
Coil — #6-32 screw terminals.

6. Coil Voltage:
12, 24, 48, 110, 125VDC
24, 120, 240, 277, 480VAC, 50/60 Hz.

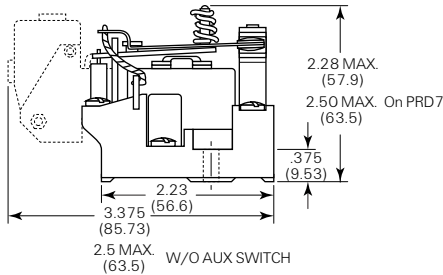
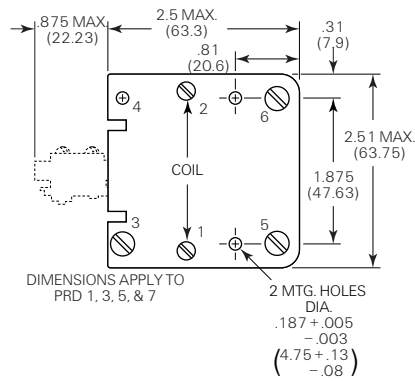
Note: All part numbers are RoHS compliant.

Stock Items - The following items are normally maintained in stock for immediate delivery.

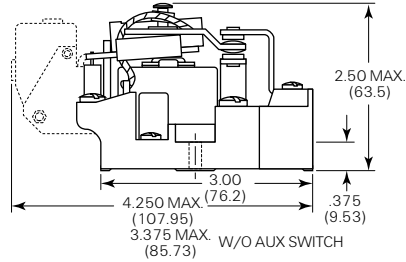
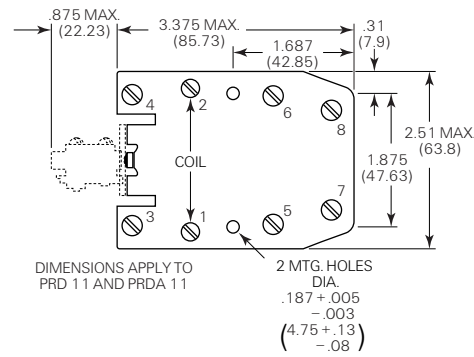
No models in the PRD-3AP / PRD-3DP series are maintained in stock.

Outline Dimensions

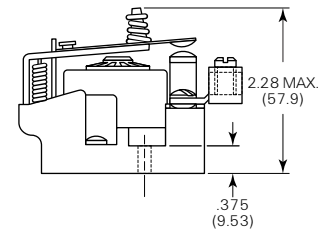
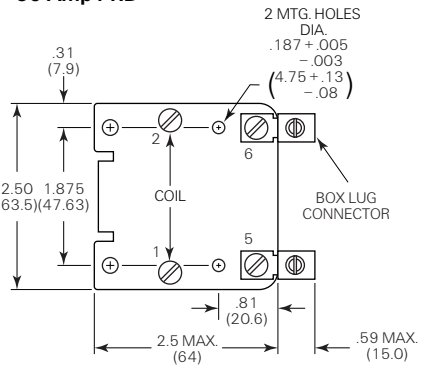
PRD/PRDA Small Base - Top View



PRD/PRDA Large Base - Top View



50 Amp PRD



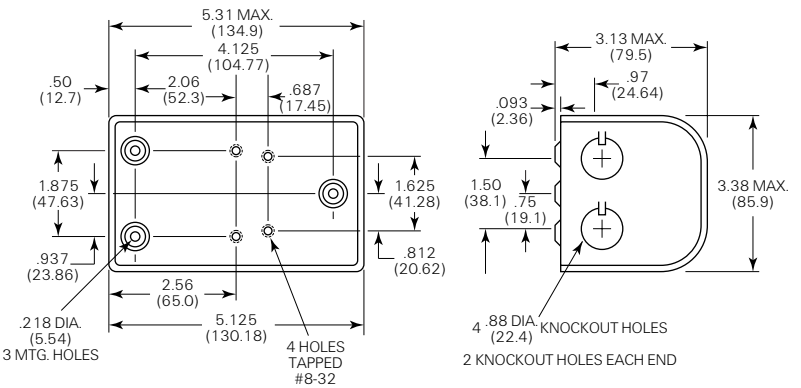
Dust Cover Open

35D013 Dust Cover

PRD dust cover has a steel base with knockouts for 0.5" (12.7mm) dia. conduit and a cover fitted with two screws. Fits PRD relays, except with auxiliary contacts. Finished in gray baked enamel.

Mounting:

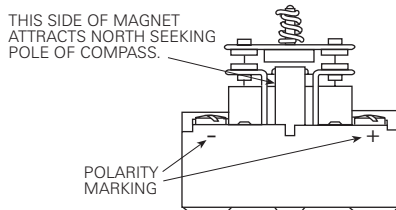
Three No. 10 holes on 1.875" (47.63mm) x 4.125" (104.77mm) centers.



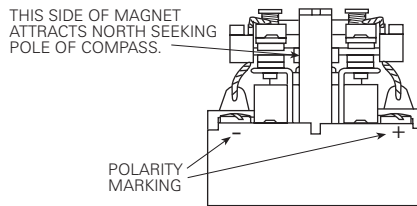
Note: Additional unused holes may be present in dust cover base.

PRD Magnetic Blow-Out Drawings

PRD3 with Magnetic Blow-Out



PRD7 with Magnetic Blow-Out



PRD11 with Magnetic Blow-Out

