

# PRD series

## 10 to 50 Amp Heavy Duty AC or DC Power Relay

- UL File E22575 (Models With All Screw Terminals)
- UL File E22575 (All Others)
- CF File 15734
- VDE File 1949 (Q. C. Terminal models only)

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 table.  
**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. Life increases at reduced loads or with appropriate arc suppression.

### UL/CSA Contact Ratings

Type	Supply		Contact Ratings
	AC	DC	
PRD 1, 3 or 5	AC	DC	25 amps @ 277VAC 1 HP at 120VAC 2 HP at 250VAC 10 amps at 600VAC 7 amps at 50VDC Res.
	AY	DY	
PRD 1, 3 or 5	AG	DG	30 amps at 277VAC Res. 1.5 HP at 120VAC 2HP at 250VAC 10 amp at 600VAC
	AG	DG	
PRD 7 or 11	AY	DY	25 amps at 240VAC 20 amps at 277VAC 1HP at 120VAC 2HP at 250VAC 7 amps at 50VDC Res. 10 amps at 600VAC
	AY	DY	
PRD 7 or 11	AG	DG	30 amps at 240VAC 20 amps at 277VAC 1.5 HP at 120VAC 2 HP at 250VAC 10 amps at 600VAC
	AG	DG	
PRD 3,7 or 11	AH	DH	20 amp at 125VDC 1/3 HP at 125VDC
	AJ	DJ	

### UL Recognized Load/Life Parameters for 50 Amp PRD

Type	Contact Ratings	Minimum Life
PRD3AP4 PRD3DP4	50 Amps, 277VAC max., General Purpose	100,000 Cycles
	30 Amps, 277VAC max., Ballast	6,000 Cycles
	15 Amps, 277VAC max., Tungsten	6,000 Cycles
	102 LRA, 17 FLA, 240VAC	30,000 Cycles
	120 LRA, 20 FLA, 120VAC	30,000 Cycles
	1.5 HP at 120VAC 3 HP at 240VAC	30,000 Cycles 30,000 Cycles

**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

Type	Contact Ratings
PRD3AR4	60 Amps, 28VDC Res.
PRD3DR4	30 Amps, 125VDC Res.

Dimensions are shown for reference purposes only.

Dimensions are in inches over (millimeters) unless otherwise specified.

### 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

"DY" and "DG" DC Coils			"AY" and "AG" 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 voltage @ 25°C.  
AC: 85% of nominal voltage @ 25°C.

### Environmental Data

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

### Mechanical Data

**Mounting:** Two .187" (4.75mm) diameter 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.

Specifications and availability subject to change.

www.tycoelectronics.com  
USA: 1-800-522-6752

**Ordering Information**

Typical Part No. ▶

**PRD**

**-7**

**A**

**Y**

**0**

**-120**

**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" (792mm) dia. silver.  
G = .312" (792mm) dia. silver cad.-oxide.  
†H = Silver w/magnetic blow out.  
†J = Silver cad.-oxide w/magnetic blow out.  
N = Tungsten stationary & silver cad.-oxide movable. 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.

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

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

**Ordering Information**

Typical Part No. ▶

**PRD**

**-3**

**A**

**P**

**4**

**-120**

**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:**

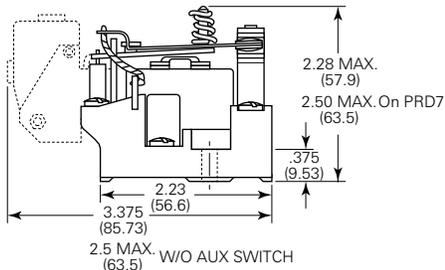
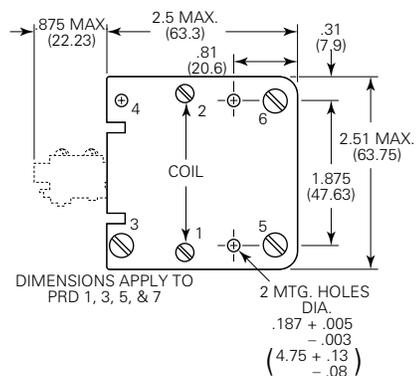
12, 24, 48, 110, 125VDC  
24, 120, 240, 277, 480VAC, 50/60 Hz.

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

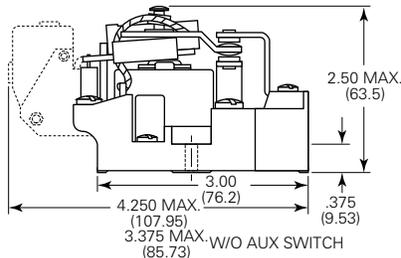
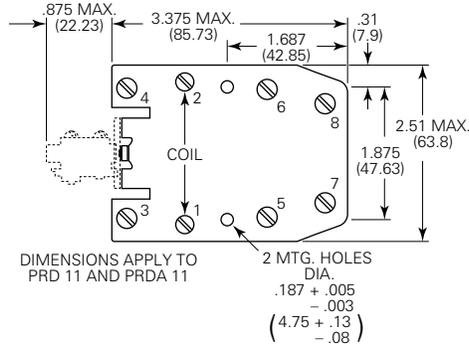
No models in the PRD-3AP series are maintained in stock.

Outline Dimensions

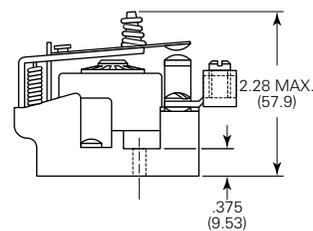
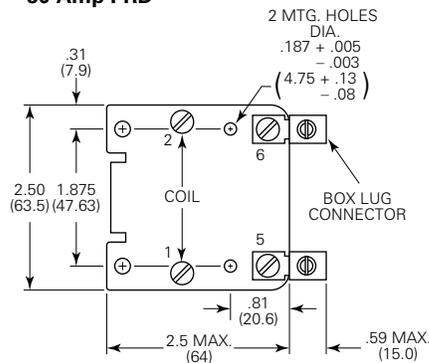
PRD/PRDA Small Base - Top View



PRD/PRDA Large Base - Top View



50 Amp PRD



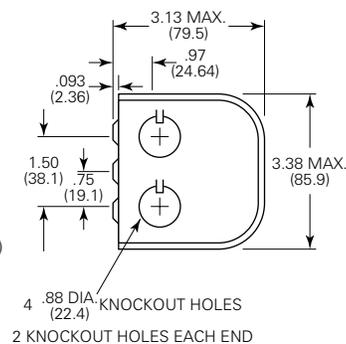
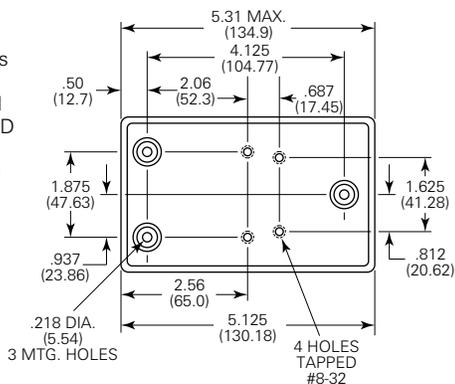
Dust Cover Open

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.

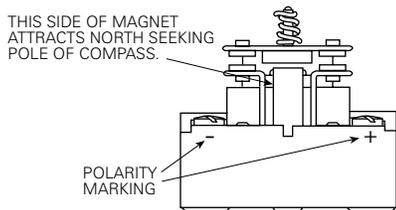
Mounting:

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

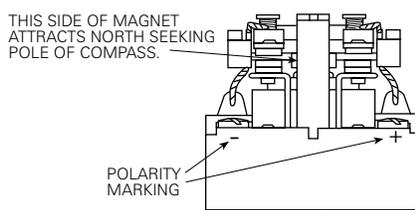


PRD Magnetic Blow-Out Drawings

PRD3 with Magnetic Blow-Out



PRD7 with Magnetic Blow-Out



PRD11 with Magnetic Blow-Out

