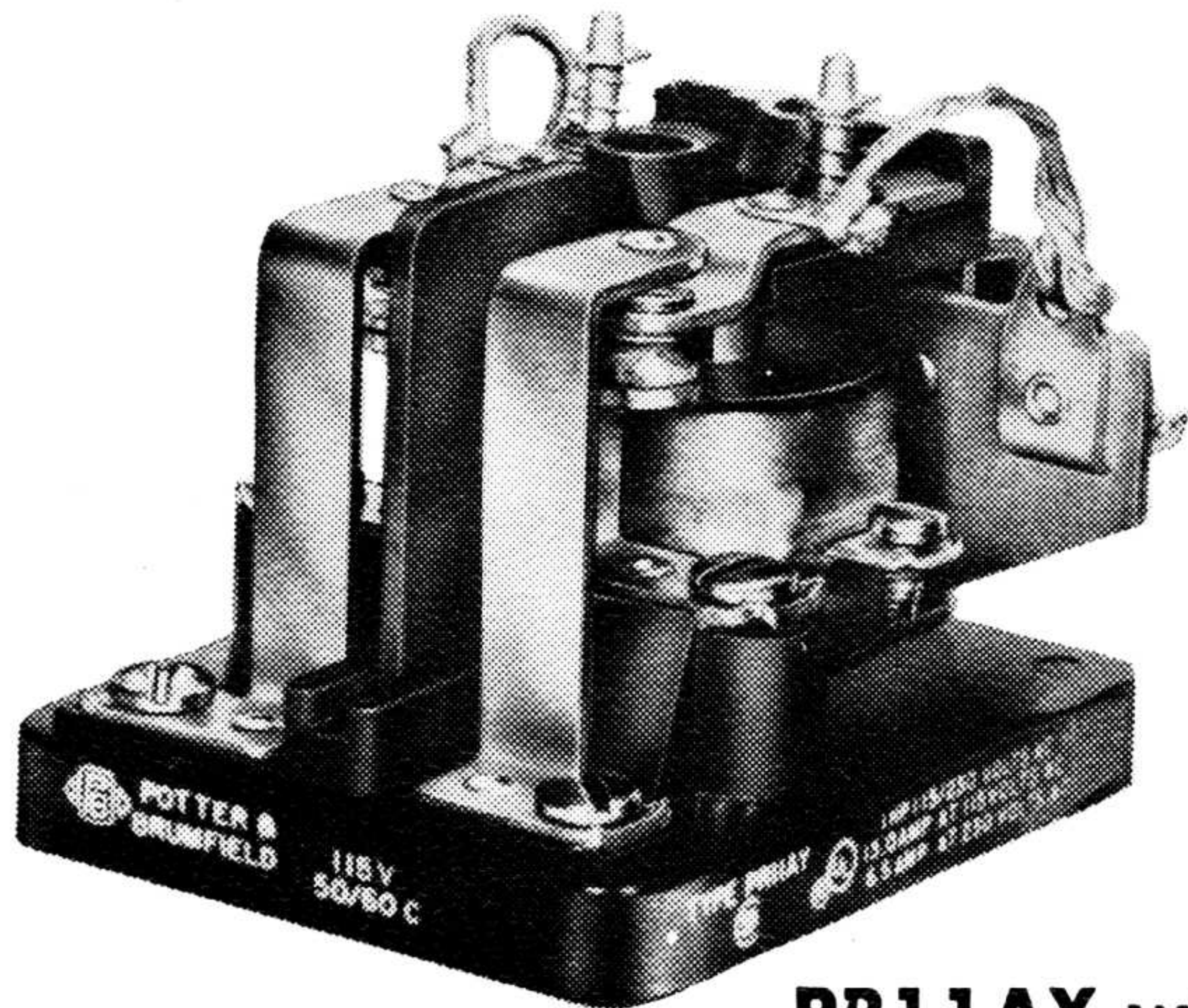


## POTTER & BRUMFIELD'S RELAY SERIES

# PR



**PR11AY with Contact Barrier**

### heavy duty power relay

#### ENGINEERING DATA

The PR is a heavy-duty, fast acting power relay designed to handle a multitude of industrial switching requirements. This reliable, high quality relay is used extensively in elevator controls, motor starting and a host of other high current or voltage switching applications.

A full floating movable contact carrier for this relay provides excellent contact pressures and contact wipe for self-cleaning action. A phenolic barrier between the contacts of multipole relays prevents flash over between contacts.

The PR features contact arrangements up to 2 Form C (DPDT) and all can be equipped with auxiliary contacts in 1 Form A, B or C arrangements.

This ruggedly constructed relay can switch current or voltage loads of up to 25 amperes. A special version rated 30 amperes is also available (consult factory). For DC loads over 28V DC, relays with normally open contacts can be supplied with permanent magnets to extinguish arcs. Relays equipped with permanent magnets carry an "M" designator.

**Example:** PR3AM or PR3DM.

A wide selection of PR relays is listed by Underwriters' Laboratories and Canadian Standards Association to save you time and expense in getting your products listed. U/L and CSA listed PR relays are available in coil voltages from 6 to 480 volts AC. Standard PR relays carrying U/L and CSA labels are stocked by leading electronic parts distributors.

A popular industrial relay for many years, the PR has been adapted to printed circuit, heavy-duty plug-in and rear panel wiring applications. One quarter-inch quick connect terminals are also

available. Standard relays are furnished with heavy-duty screw type terminals.

A compact, heavy-duty dust cover can be furnished for applications where dust, dirt and other foreign matter is a consideration.

Potter & Brumfield first began manufacturing the fore-runners of the modern PR more than 30 years ago.

**PR Relays Listed by  
Underwriters' Laboratories and Canadian Standards Association**  
U/L File No. E22575 CSA File No. 15734

#### AC RELAYS

#### DC RELAYS

Type	Contact Arrangements	Type	Contact Arrangements
PR1AY	SPST-NO	PR1DY	SPST-NO
PR2AY	SPST-NC	PR2DY	SPST-NC
PR3AY	SPST-NO-DB	PR3DY	SPST-NO-DM
PR4AY	SPST-NC-DB	PR4DY	SPST-NC-DB
PR5AY	SPDT	PR5DY	SPDT
PR7AY	DPST-NO	PR7DY	DPST-NO
PR8AY	DPST-NC	PR8DY	DPST-NC
PR11AY	DPDT	PR11DY	DPDT

PR relays listed by U/L and CSA are available in any of the following coil voltages: 6, 12, 24, 48, 120, 208, 240 or 480 volts AC, 50/60 Hz.

Contacts for all PR relays listed by U/L and CSA are rated at 25 amps non-inductive or 1 HP @ 120/240volts AC, single phase. NOTE: Any PR relay deviating electrically or physically from the standard models above will not be listed by U/L or CSA.



# POTTER & BRUMFIELD

DIVISION OF AMERICAN MACHINE & FOUNDRY COMPANY, PRINCETON, INDIANA

## ENGINEERING DATA

### GENERAL:

**Description:** Heavy-Duty Power Relay.

**Insulating Material:** Molded phenolic.

**Insulation Resistance:** 100 megohms minimum.

**Electrical Life:** 100,000 operations at rated load. Contact life increases at smaller loads or with appropriate arc suppression.

**Breakdown Voltage:** 1,500 volts rms minimum between all elements and ground.

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

**Weight:** Approximately 10 ozs.

**Operate:** AC: 85% of nominal voltage @ +25°C.  
DC: 75% of nominal voltage @ +25°C.

**Terminals:** Heavy-duty screw type terminals are standard for coil and contacts. Available with printed circuit, plug-in, .250" quick connect and terminals for rear panel wiring.

**Enclosure:** PR dust cover.

### CONTACTS:

**Arrangements:** Up to 2 Form C (DPDT).

**Material:** .312" dia. silver standard. Other materials available for special applications.

**Load:** 25 amps non-inductive or 1 HP @ 120/240 volts AC, single phase. Special version 30 amps non-inductive @ 120/240 volts AC, single phase available (consult the factory).

### Auxiliary Contacts:

**Arrangements:** 1 Form A (SPST-NO), 1 Form B (SPST-NC), 1 Form C (SPDT).

**Material:** .187" dia. silver.

**Rating:** 5 amps at 120 volts AC, 60 Hz resistive.

### COILS:

**Voltage:** AC: to 480 volts.

DC: to 110 volts.

**Power:** DC: 2.0 watts nominal.

AC: 9.8 volt-amperes.

**Resistance:** 63,800 ohms maximum.

**Duty:** Continuous, AC or DC (DC coils will withstand 8 watts @ +25°C).

**Coil Treatment:** Centrifugally impregnated with electrical insulating varnish for maximum moisture resistance.

### MOUNTING:

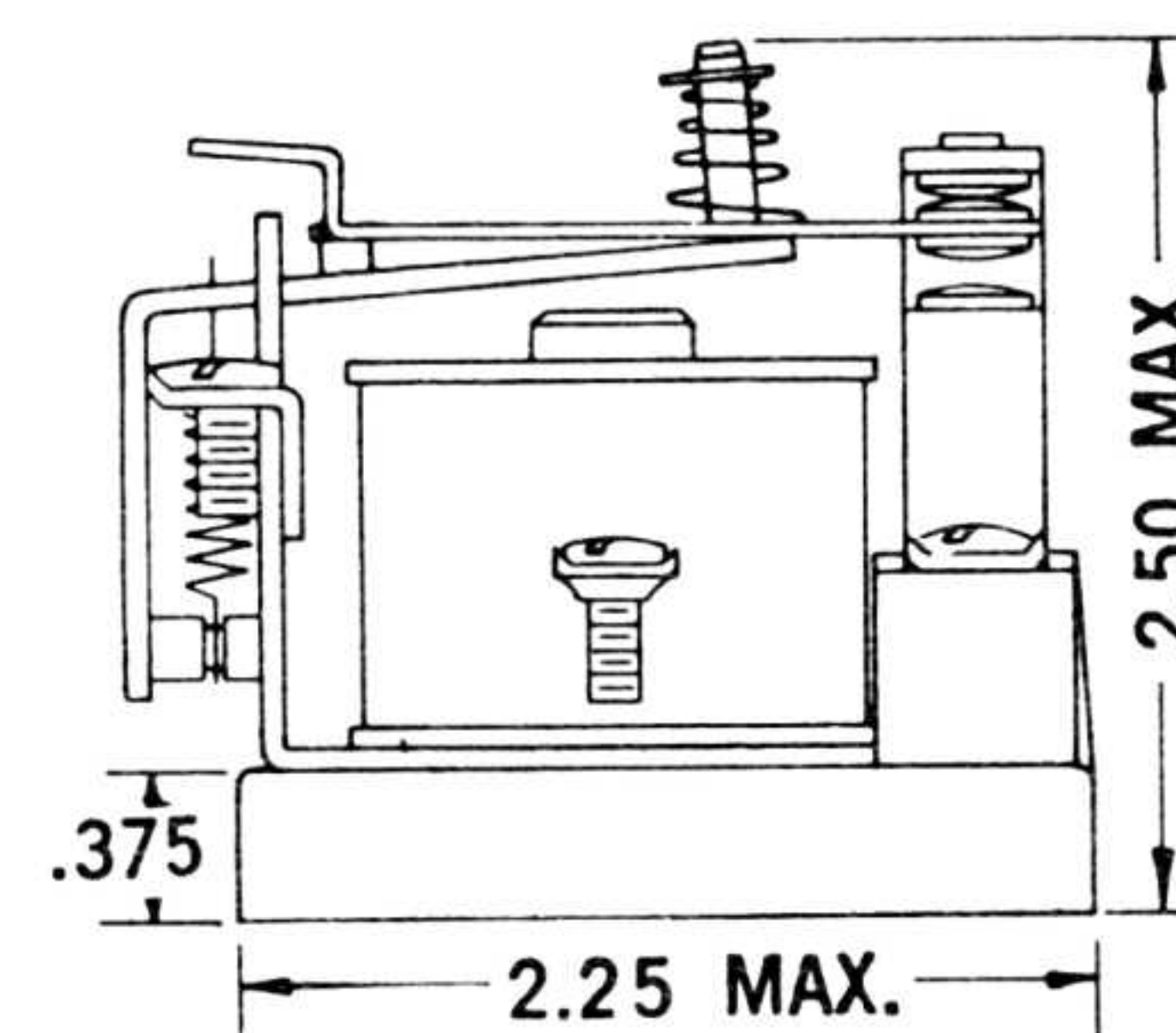
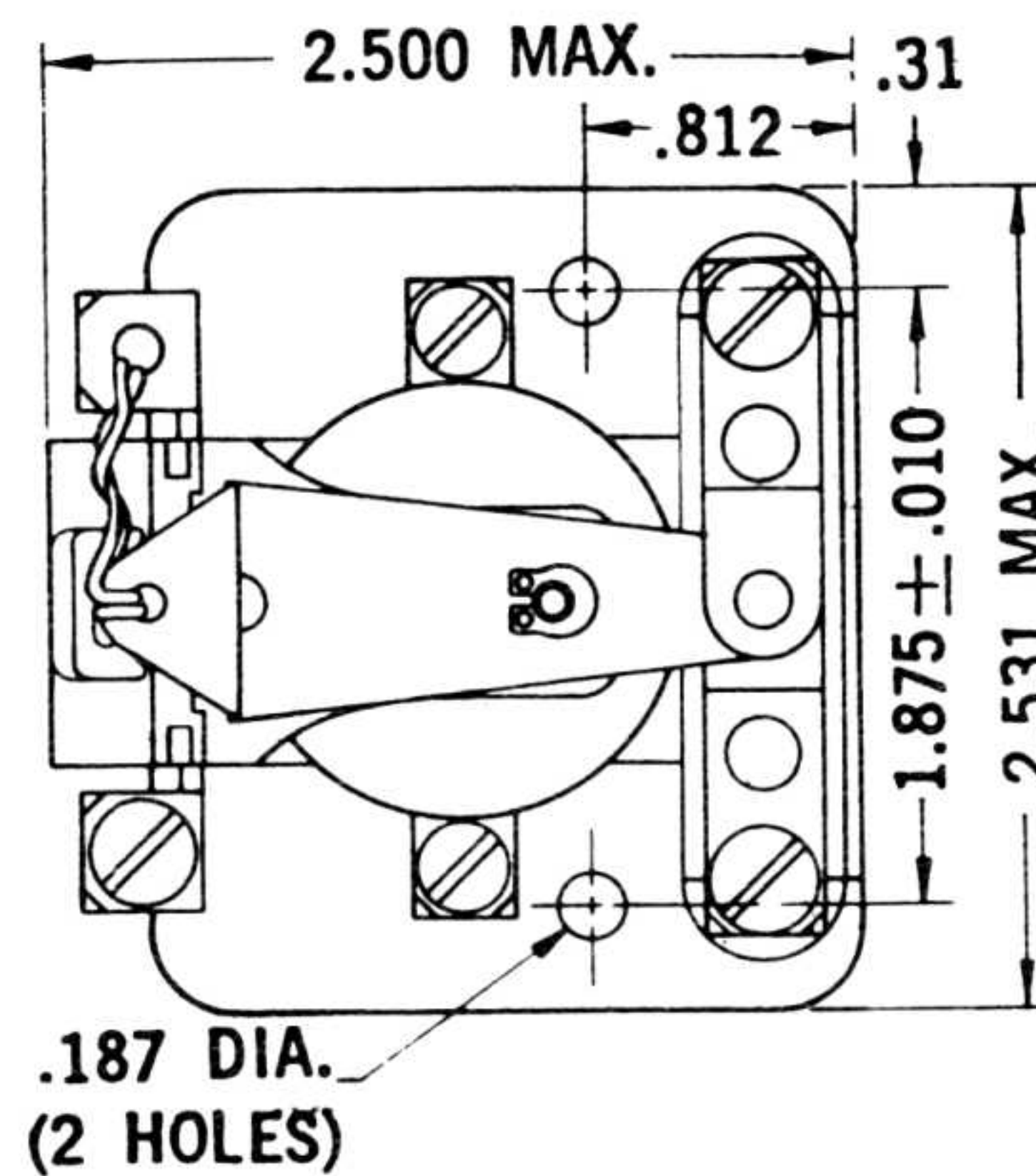
Two .187" diameter holes on 1.875" centers.

## COIL DATA FOR PR SERIES

### DC COILS

### AC COILS (50-60 Cycle)

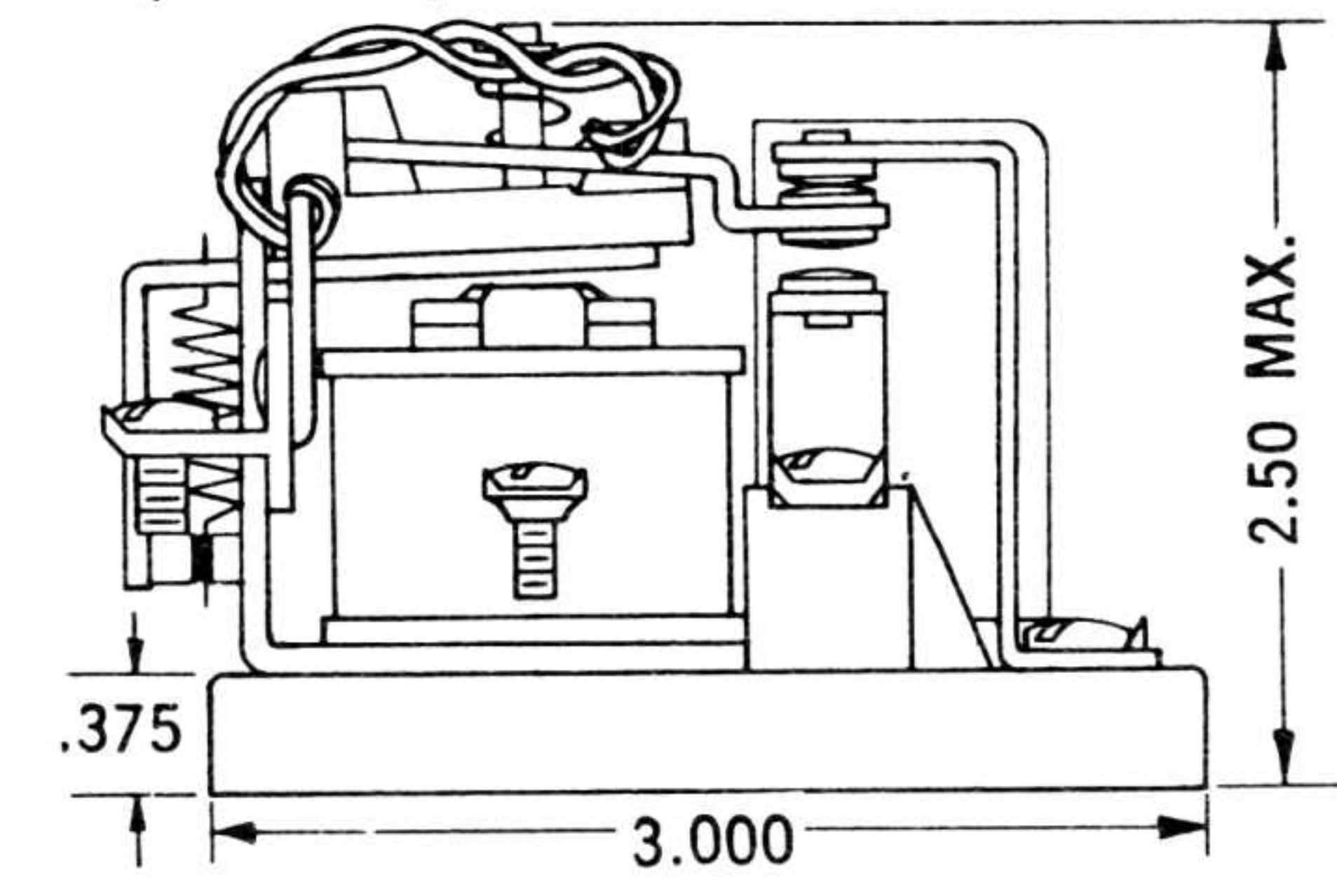
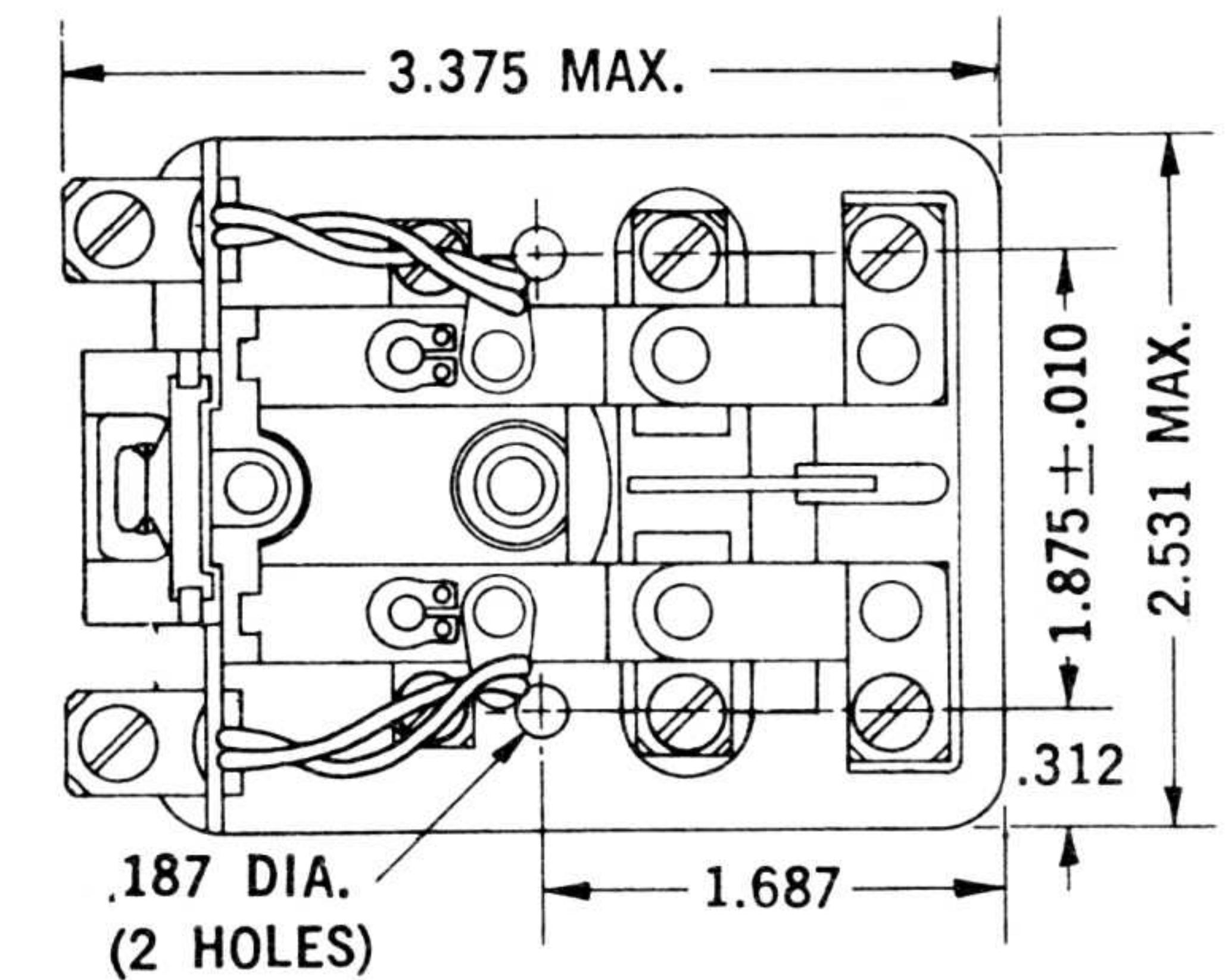
Volts	Resistance Ohms	Average DC Current Milliamperes	Volts	DC Resistance	Average AC Current Milliamperes
6	18	333	6	.86	1600
12	71	169	12	3.2	820
24	288	84	24	12.0	410
110	6050	18.2	120	290	85
220	Use 110 V. relay with approx. 6,000 ohm 5W wire-wound resistor in series.		240	1200	43
			480	4500	22



PR 5

Dimensions apply also to PR 1, 2, 3 & 7

Add approx. .875" to length for auxiliary contacts.



PR 11

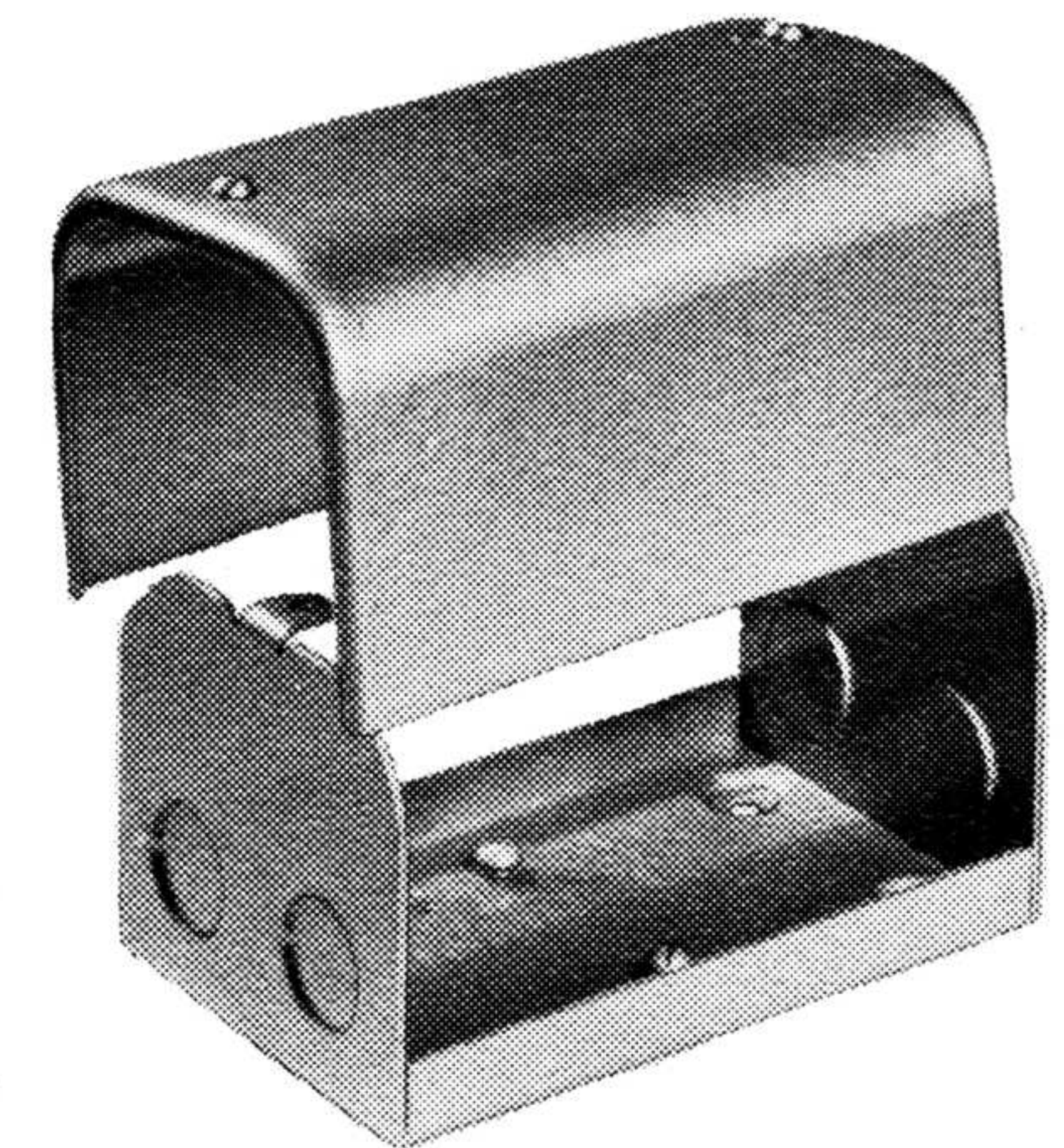
Dimensions apply also to PR 8

### PR DUST COVER No. 35D013

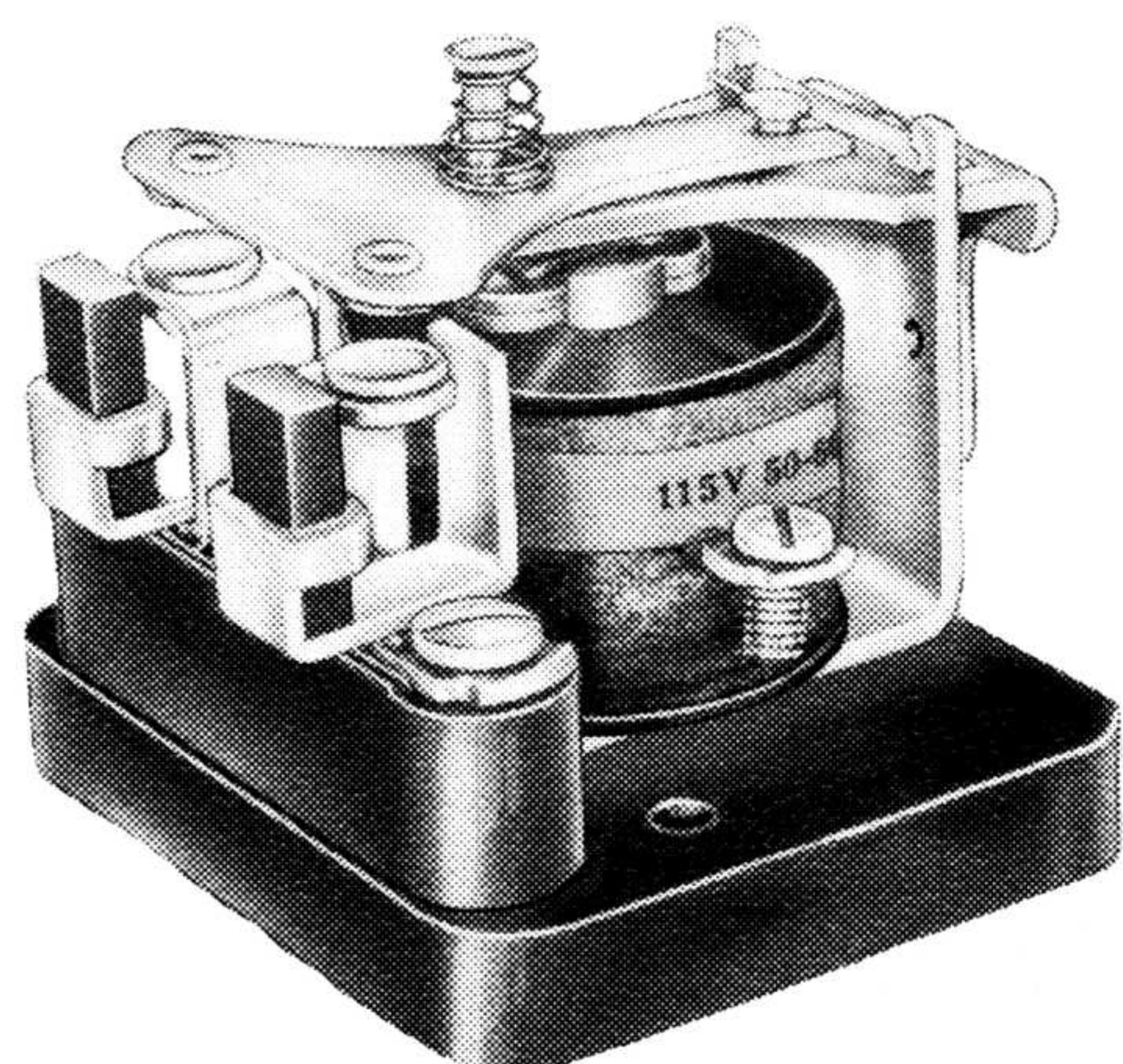
The PR dust cover has a steel base with knockouts for .5" dia. conduit and an aluminum cover fitted with two screws. Fits PR relays. Finished in gray baked enamel.

**Mounting:** Three No. 10 holes on 1.875" x 4.125" centers.

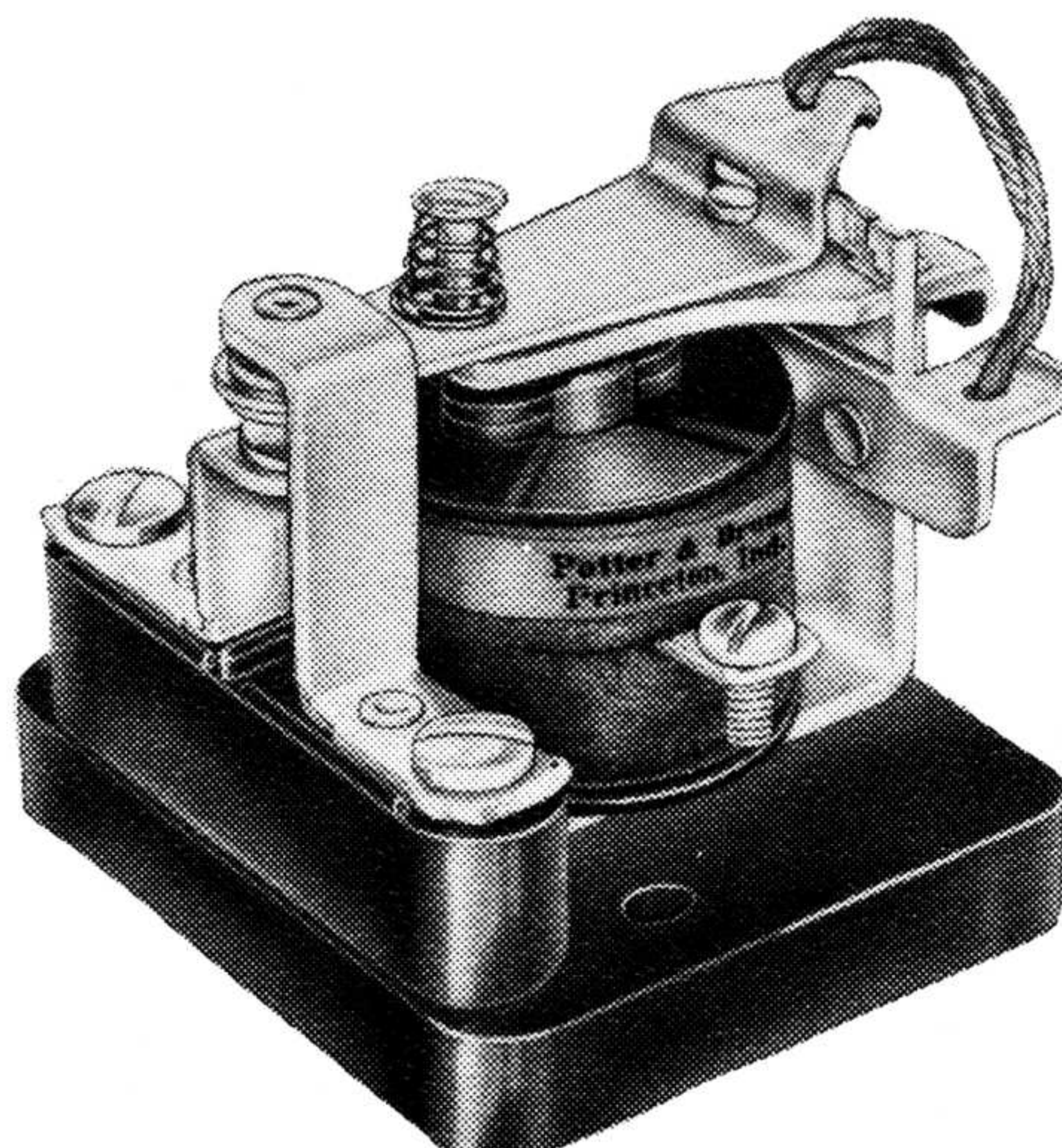
**Overall Dimensions:** Length 5.312", (MAX.) Width 3.375", Height 3.125."



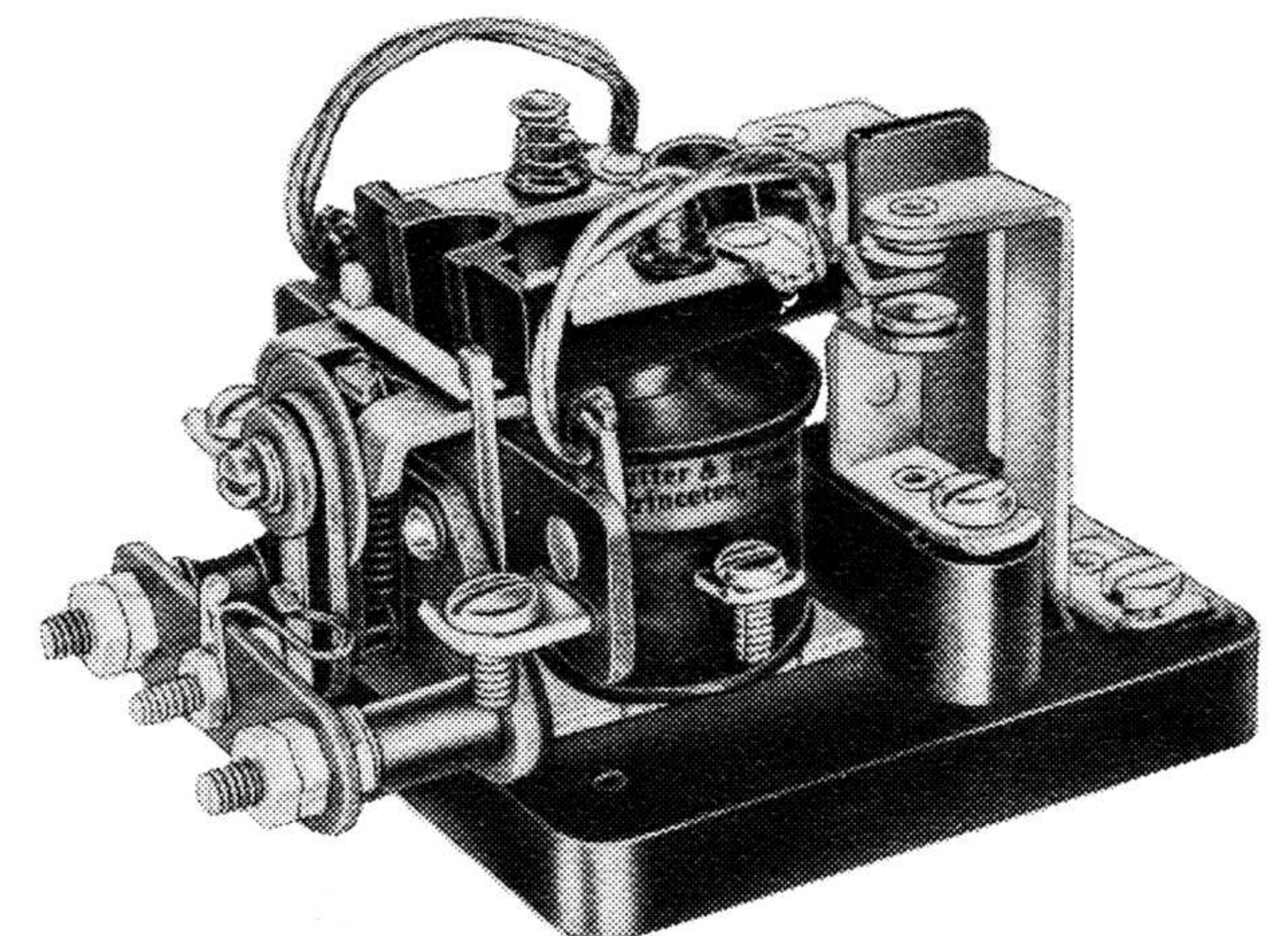
Dust Cover Open



PR3AM with Magnetic Blow-Outs



PR5 Compact SPDT



PR11AL5 with Auxiliary Contacts