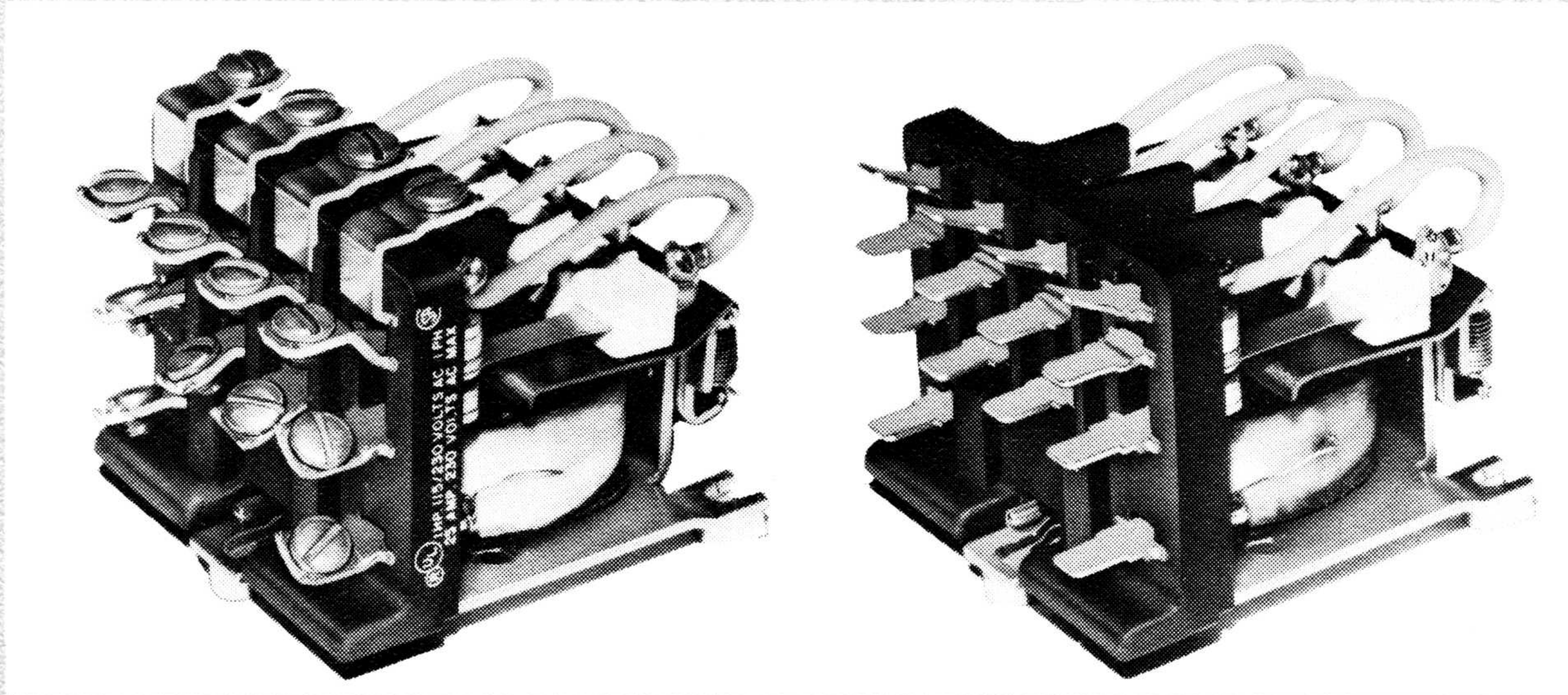


POTTER & BRUMFIELD'S RELAY SERIES

PM



heavy duty 4PDT power relay

ENGINEERING DATA

The PM is a compact, heavy-duty 4PDT power relay designed to occupy about the same space as a conventional 2-pole relay. This relay is available with a wide range of operating voltages for a host of power switching applications. It is also furnished in three versions: The PM standard series with screw type terminals, the PMT with quick-connect terminals, and the PMC with plastic dust cover.

Ruggedly constructed for long life and dependability in single phase and polyphase heavy-duty switching applications, this relay has a mechanical life in excess of 10 million operations at a maximum of two cycles-per-second with 50% dwell time. The rated load life for the PM is over 100,000 operations at a maximum of 14 cycles-per-minute with 50% dwell time.

A large rectangular embossed area on the armature of this relay rests on the shaded section of the AC coil core when coil is energized, thus providing buzz-free operation throughout the life of the relay. Standard coil operating voltages range from 6 to 480 volts AC, 50/60 Hz or 6 to 110 volts DC.

The standard PM series relays are listed by Underwriters' Laboratories and Canadian Standards Association and meet space and creepage requirements to 300 volts for motor controllers of 1 H.P. or less. The U/L listing does not apply to the 480V version, the PMT nor the PMC.

Contacts of $\frac{1}{4}$ " diameter are silver-cadmium oxide and are rated at 25 amps at 120/240 volts AC; 1 H.P. per movable arm at 120 or 240 volts AC. Contact arrangements of 4PST normally open or 4PDT are standard for this relay.

A molded contact carrier, front section and contact barriers provides high dielectric strength and good arc resistance. The barriers between each contact arrangement provide ample arc-over resistance in polyphase applications.

The heavy frame construction provides maximum stability for the relay's components. A front keyhole mounting and two rear channel slots are conveniently located for either horizontal or vertical mounting. This relay will operate in any mounting position. Heavy-duty screw type terminals are staked to and insulated by the phenolic front section of the relay. The terminals are fully accessible when the relay is mounted.

A special adaptor plate is available to adapt PM relays to mounting surfaces and channels predrilled for P&B's PR series.

The compact, heavy duty dust cover of the PMC series also fits the PMT and PM series, but the U/L listing does not apply when added to PM versions.

GENERAL:

Description: Heavy-duty, compact 4PDT power relay.

Insulating Material: Molded diallyl phthalate.

Insulation Resistance: 100 megohms minimum.

Expected Life:

Mechanical: In excess of 10 million operations at a maximum of 2 c.p.s. with 50% dwell time.

At Rated Load: Over 100,000 operations at a maximum of 14 c.p.m. with 50% dwell time.

Breakdown Voltage: 2,000 volts rms minimum between all elements and ground.

Temperature Range: AC: -55 to $+45^{\circ}\text{C}$.
DC: -55 to $+55^{\circ}\text{C}$. ($+75^{\circ}\text{C}$. available on special order.)

Weight: Approximately 14 ozs.

Operate: AC: 85% of nominal voltage @ 25°C .

Pick-up: DC: 75% or less of nominal voltage @ $+25^{\circ}\text{C}$.



POTTER & BRUMFIELD

DIVISION OF AMERICAN MACHINE & FOUNDRY COMPANY, PRINCETON, INDIANA

Terminals: PM & PMC: Heavy-duty screw type with No. 8-32 BH screw. PMT: .25" Quick-connect terminals.

CONTACTS:

Arrangements: 4PDT or 4PST-NO.

Material: .25" dia. silver-cadmium-oxide. Other contact materials are available for specific applications.

Rating: 25 amps @ 120 volts, 50/60 Hz resistive. 25 amps @ 240 volts, 50/60 Hz resistive. 1 H.P. per movable arm, 120 or 240 volts AC single-phase.

Standard PM relays are U/L listed for spacing and creepage requirements to 300 volts for motor controllers of 1 H.P. or less.

U/L File No. E22575.

COILS:

Voltage: AC: up to 480 volts 50/60 Hz.
DC: up to 110 volts.

Power: AC: 14 volt-amps average at nominal voltage.
DC: 4.4 watts nominal.

Duty: Continuous.

Treatment: Coils are centrifugally impregnated with high quality electrical varnish.

MOUNTINGS:

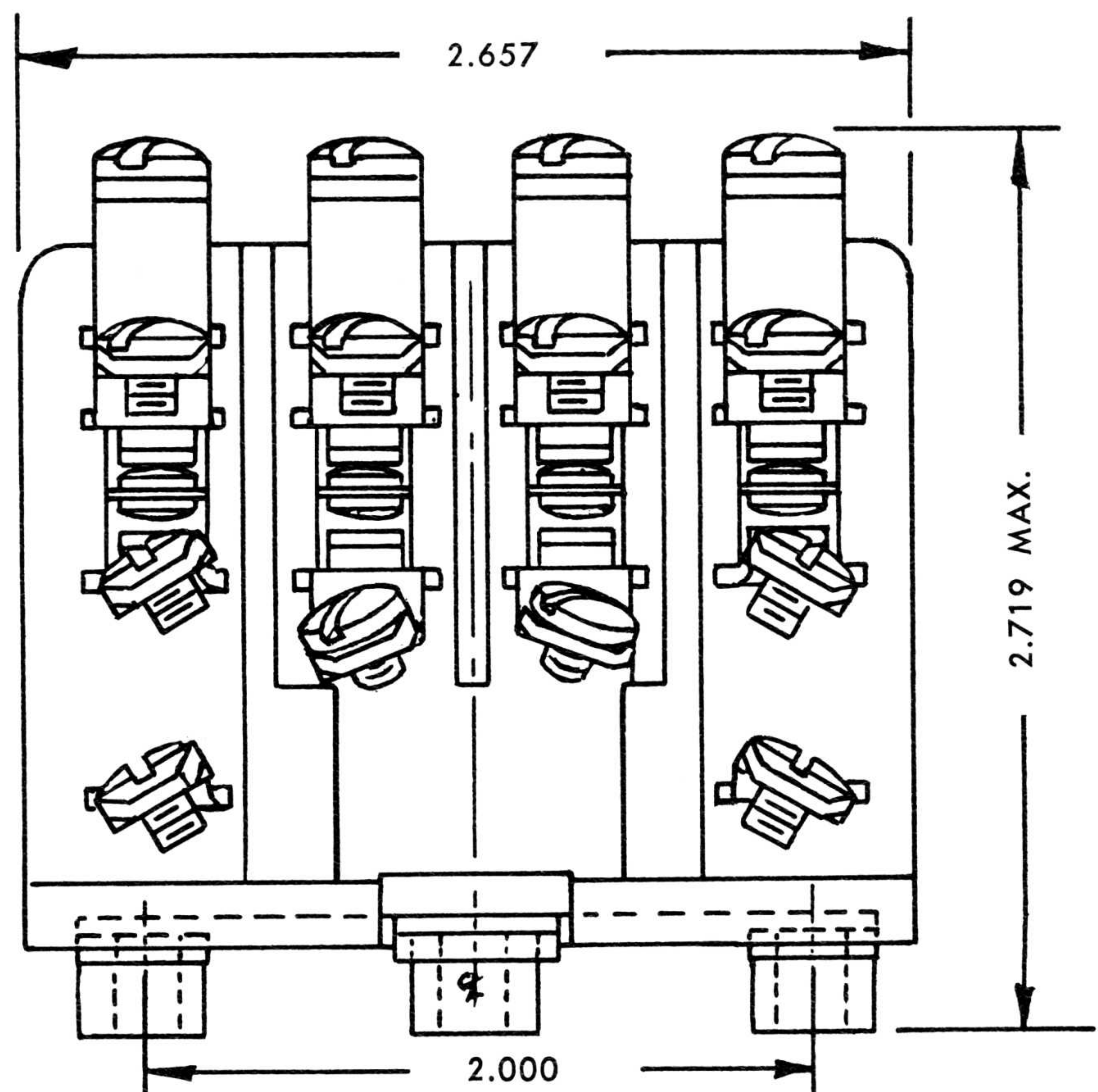
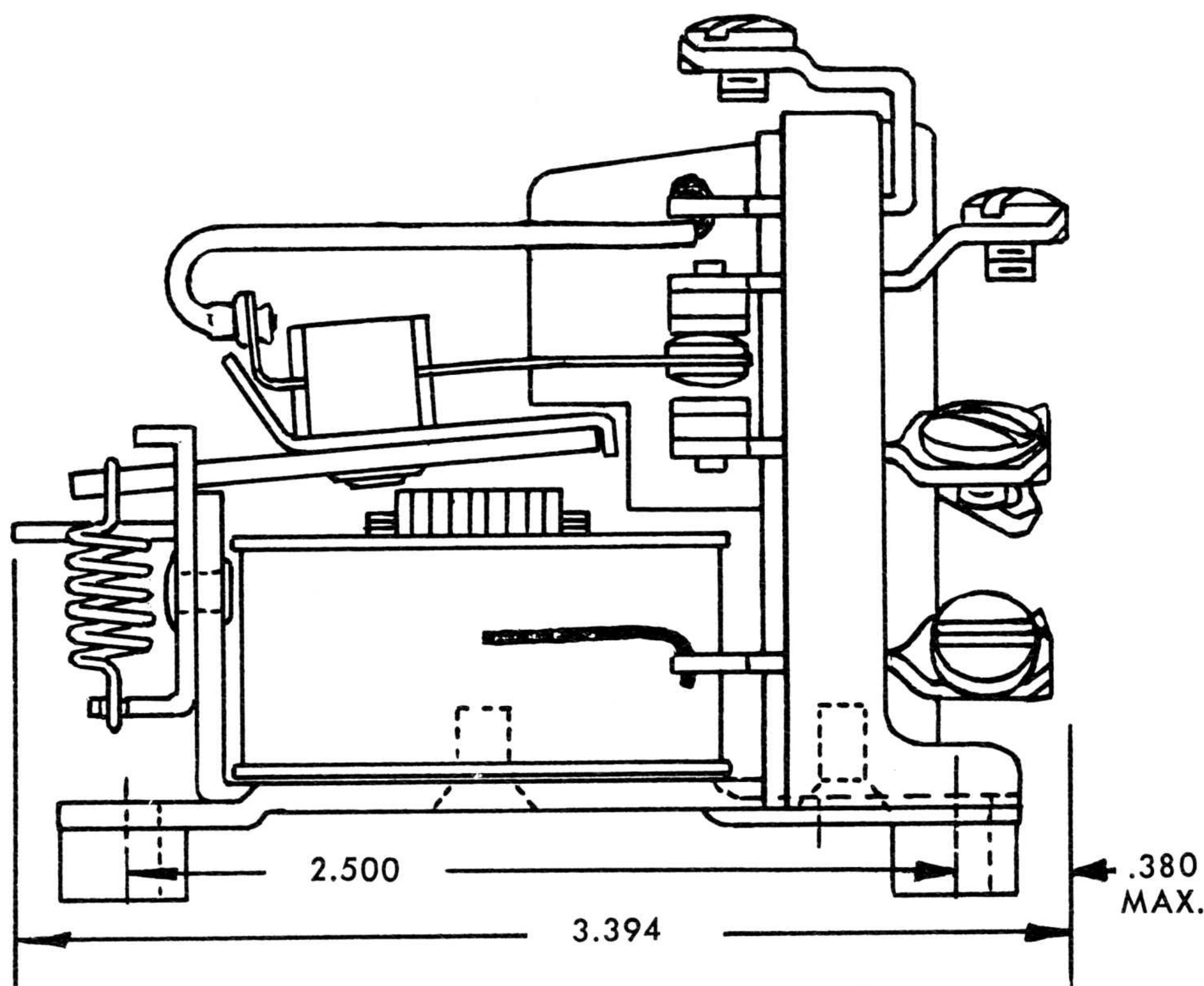
Standard: Three holes; one front key-hole and two rear channel slots for No. 8-32 screws.

Special: Adaptor plate available for adapting PM relays to a chassis predrilled for our PR series relays.

COIL DATA FOR PM RELAYS

DC COILS			AC COILS (50/60 Hz)		
Nominal Voltage	DC Resistance In Ohms	Nominal Current In Milliamps	Nominal Voltage	DC Resistance In Ohms	Nominal Current In Milliamps
6	8.2	732	6	.37	2150
12	33	364	12	1.4	1070
24	132	182	24	5.0	540
48	526	91	120	120	128
110	2760	40	240	587	61
			480	1,790	32
220	Use a 110 volt relay with 2700 to 3300 ohm 5 watt wire wound resistor in series.				

MOUNTING:



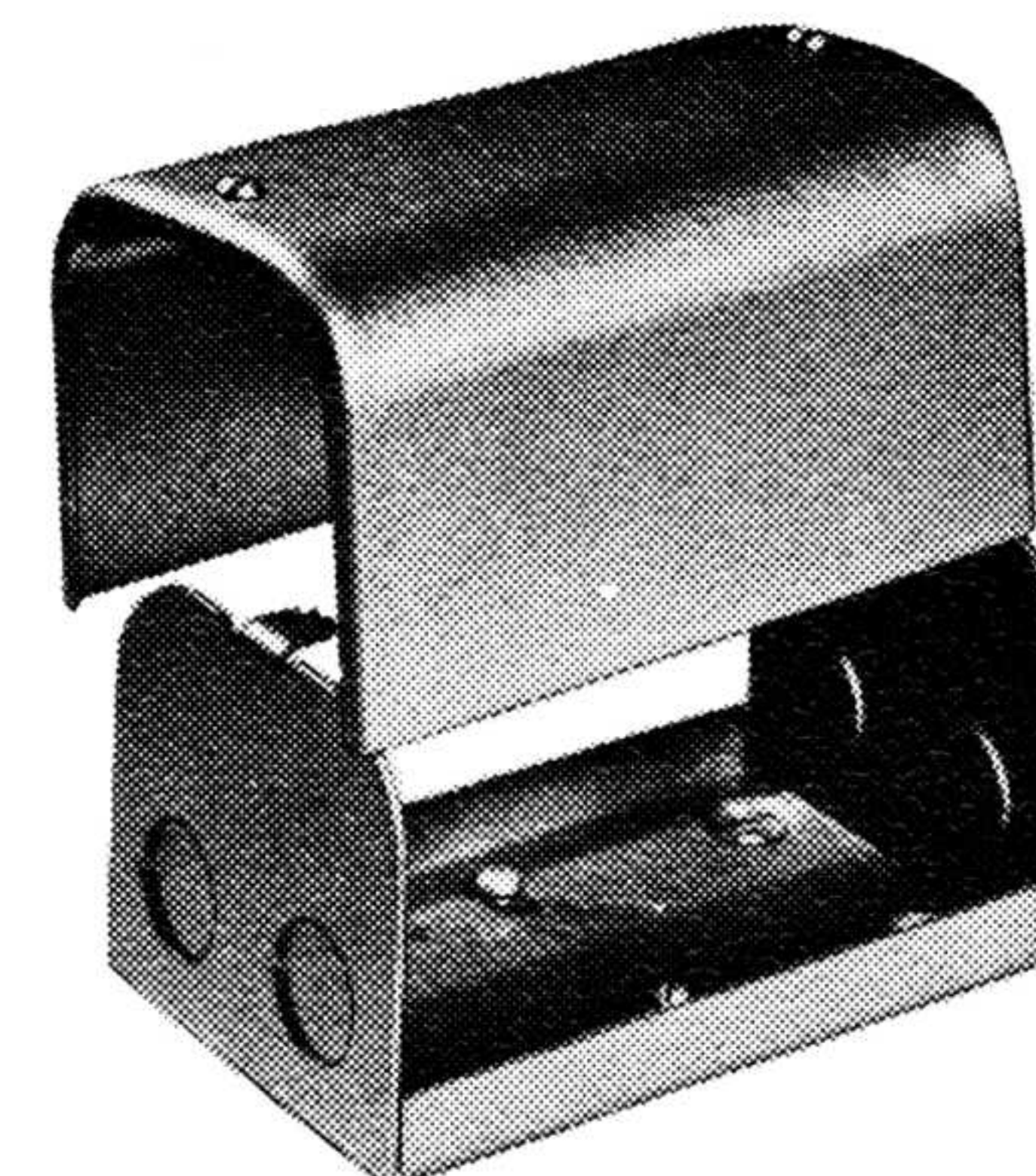
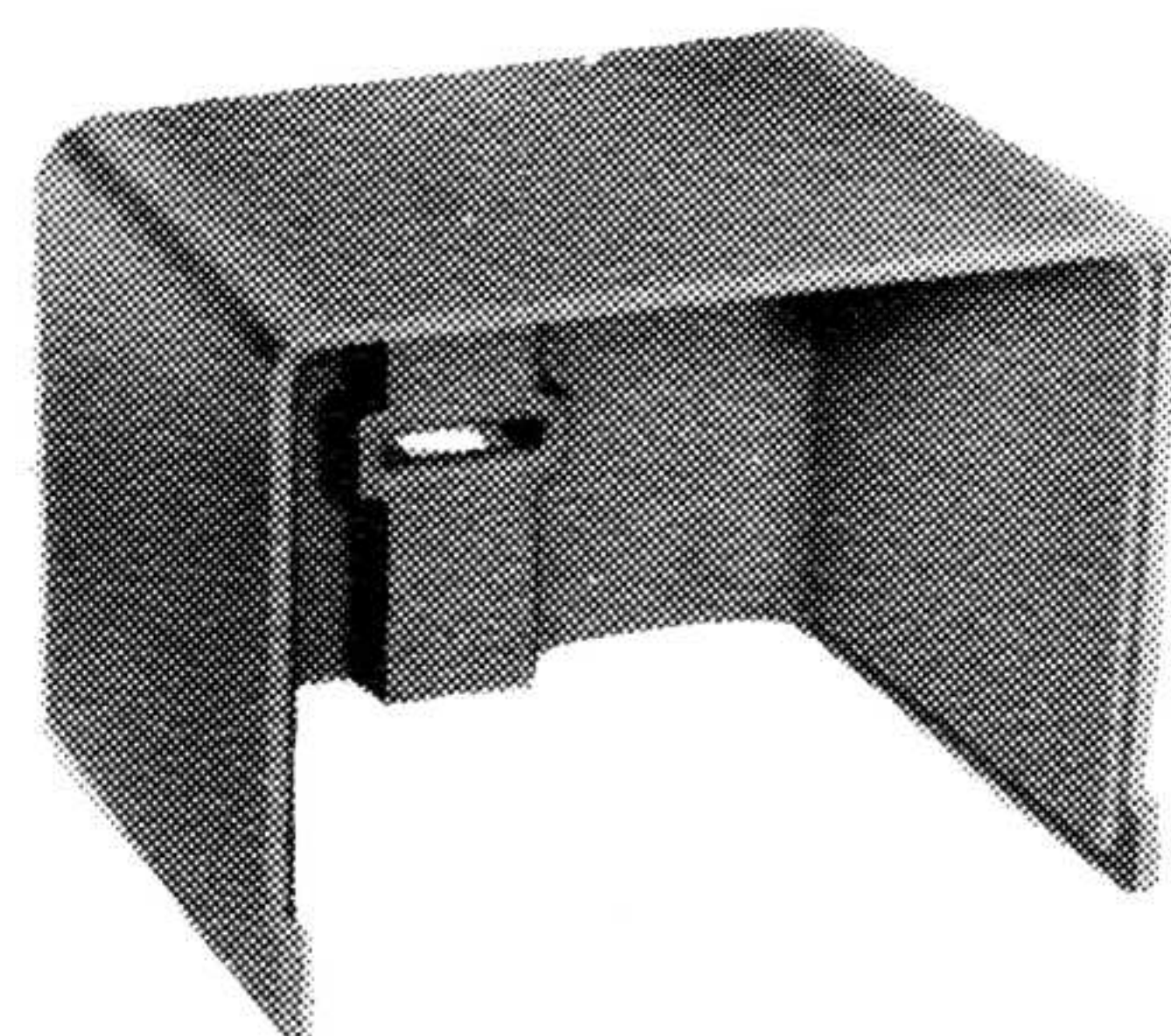
OVERALL DIMENSIONS

(IN INCHES)

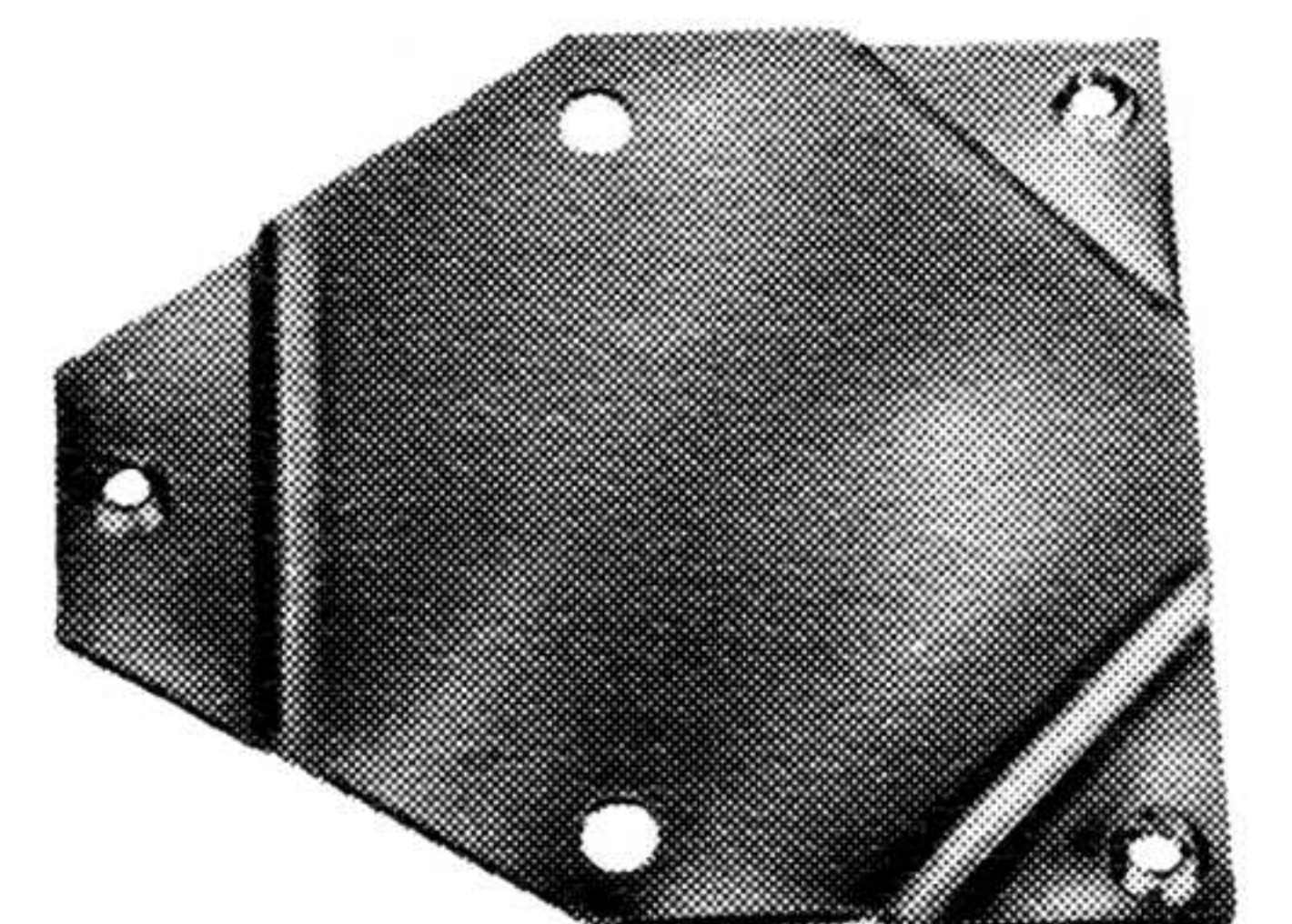
	Length	Width	Height
35D203	3.394	2.657	2.719
35D227	5.313	3.813	3.813



PM PLASTIC DUST COVER 35D203:



PM METAL COVER 35D227:



PM ADAPTOR PLATE