INTRODUCTION

Input sensing modules are used with contact-sensing protective relays that have high-voltage (230 Vac or 250 Vdc) power supplies. An input sensing module protects the protective relay from excessive heat by dissipating the power outside the relay case.

Input sensing modules are available for relays with isolated or non-isolated contact sensing. If the protective relay will supply the current for monitoring contact status, an isolated sensing module must be used. If an external dc source will supply the current for monitoring contact status, a non-isolated sensing module must be used and the nominal voltage of the dc source must match the protective relay power supply input. Depending upon the model selected, an input sensing module can be equipped to sense from one to six contacts. The available input sensing modules are summarized in Table 1.

Table 1. Input Sensing Module Features and Part Numbers

Contact Sensing Type	Number of Sensed Contacts	Part Number
Isolated	1	9170206105
Non-isolated	1	9170206111
Isolated	2	9170206104
Non-isolated	2	9170206110
Isolated	3	9170206103
Non-isolated	3	9170206109
Isolated	4	9170206102
Non-isolated	4	9170206108
Isolated	5	9170206101
Non-isolated	5	9170206107
Isolated	6	9170206100
Non-isolated	6	9170206106

SPECIFICATIONS

Power Dissipation

See Table 2.

Table 2. Input Sensing Module Power Dissipation

Power Supply Type and Rating	Frequency	Input Voltage	Burden Per Contact Input
T, X, or Z 230 Vac	60 Hz	190 Vac 230 Vac 270 Vac	5.5 VA 8.5 VA 12.0 VA
	50 Hz	190 Vac 230 Vac 270 Vac	6.0 VA 10.0 VA 13.5 VA
T, X, or Z 250 Vdc	60 Hz	140 Vac 250 Vac 280 Vac	2.0 VA 5.5 VA 7.0 VA

Temperature Range

Operating:	–40 to 70°C (–40 to 158°F)
Storage:	–65 to 100°C (–85 to 212°F)

Weight

2 lb. (907 g) maximum

Type Tests

Vibration:	2 G in each of three mutually perpendicular axes swept over the range of 10 to 500 Hz for a total of six sweeps, 15 minutes each sweep.
Shock:	15 G in each of three mutually perpendicular axes.

MOUNTING

The preferred mounting orientation for the input sensing module is with the cooling fins positioned vertically. Mount the module as close to the relay as practical to take advantage of the transient surge suppressors within the module. Module mounting dimensions are illustrated in Figure 1.

CONNECTIONS

Input sensing module connections are made at two terminal blocks labeled TB1 and TB2. The terminal block screws accept a maximum wire size of 12 AWG and have a maximum tightening torque of 9 in-lb (1 N•m).

Input sensing module internal connections are shown in Figures 2 through 13. Module connections will vary according to the protective relay being used with the module. Refer to the protective relay instruction manual when connecting the module and relay.

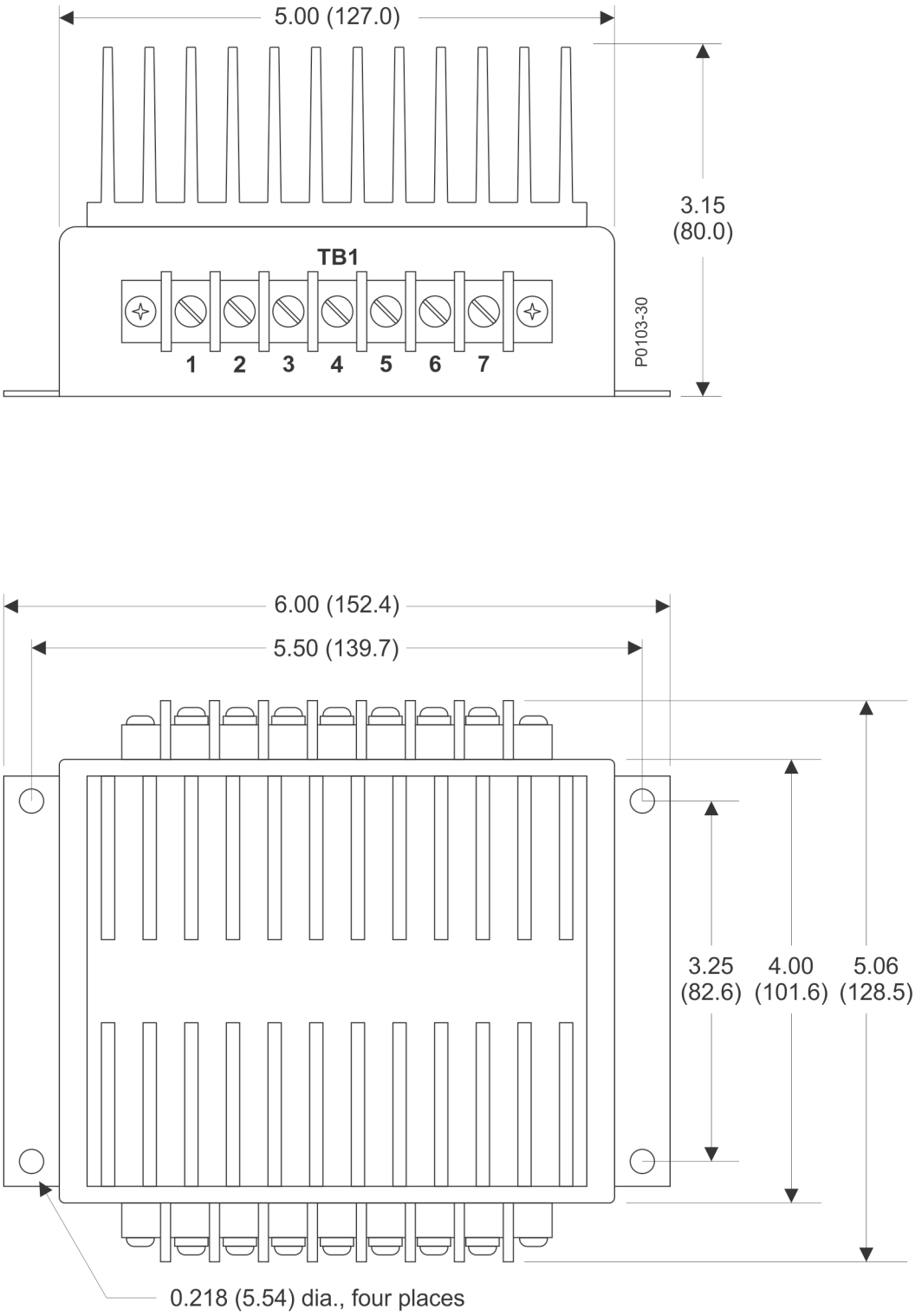

Figure 1. Input Sensing Module Mounting Dimensions

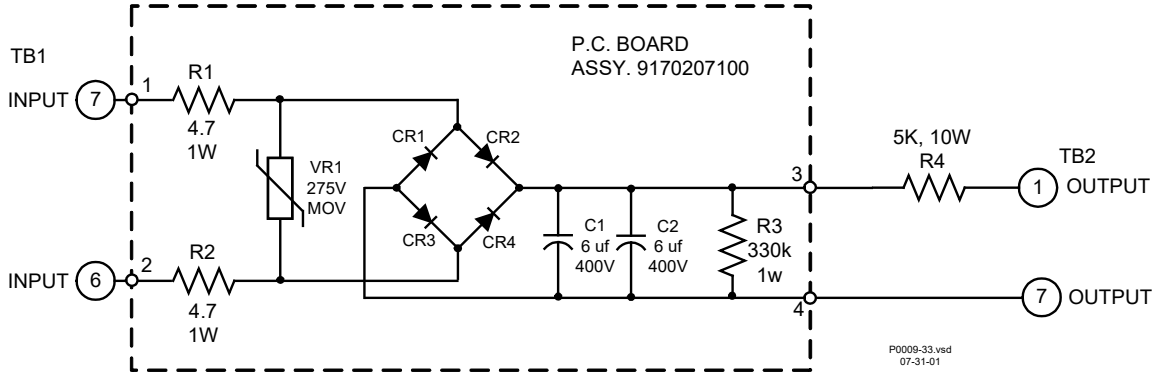

Figure 2. One Isolated Contact, Part Number 9170206105

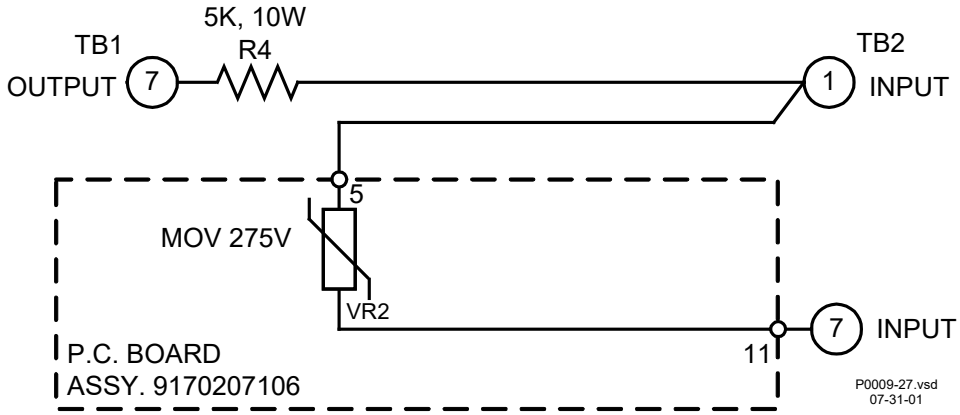

Figure 3. One Non-Isolated Contact, Part Number 9170206111

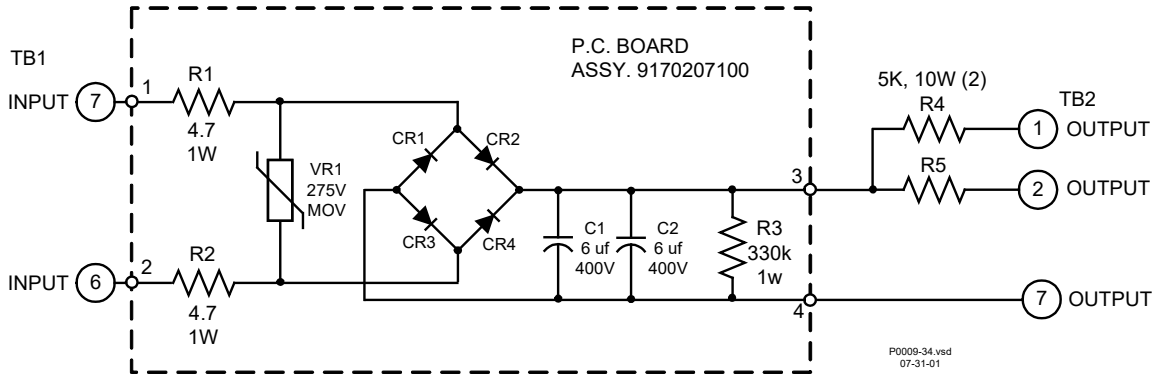

Figure 4. Two Isolated Contacts, Part Number 9170206104

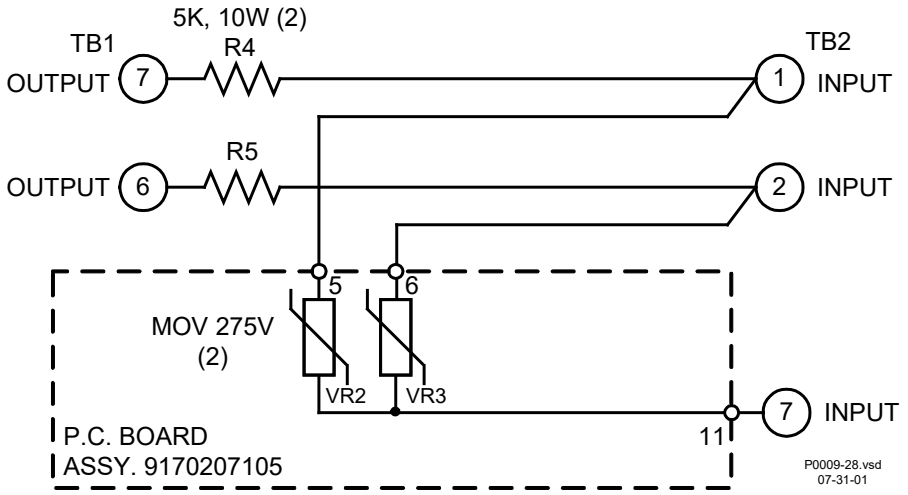

Figure 5. Two Non-Isolated Contacts, Part Number 9170206110

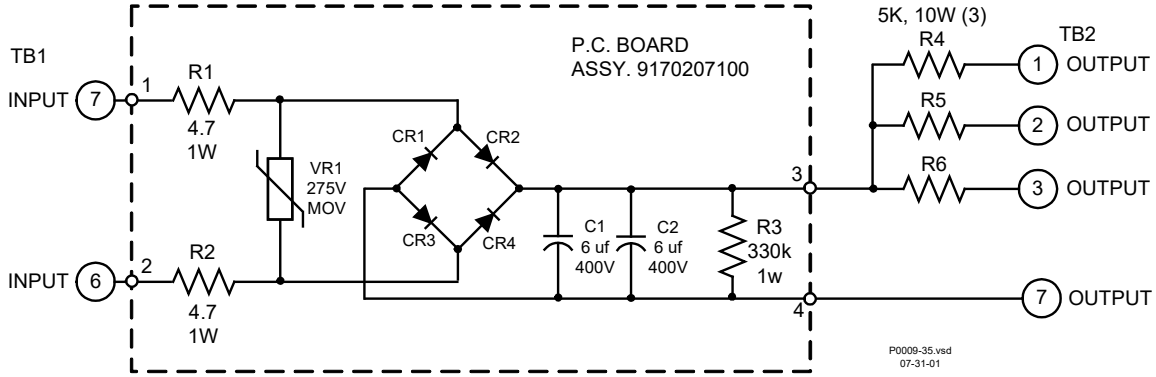

Figure 6. Three Isolated Contacts, Part Number 9170206103

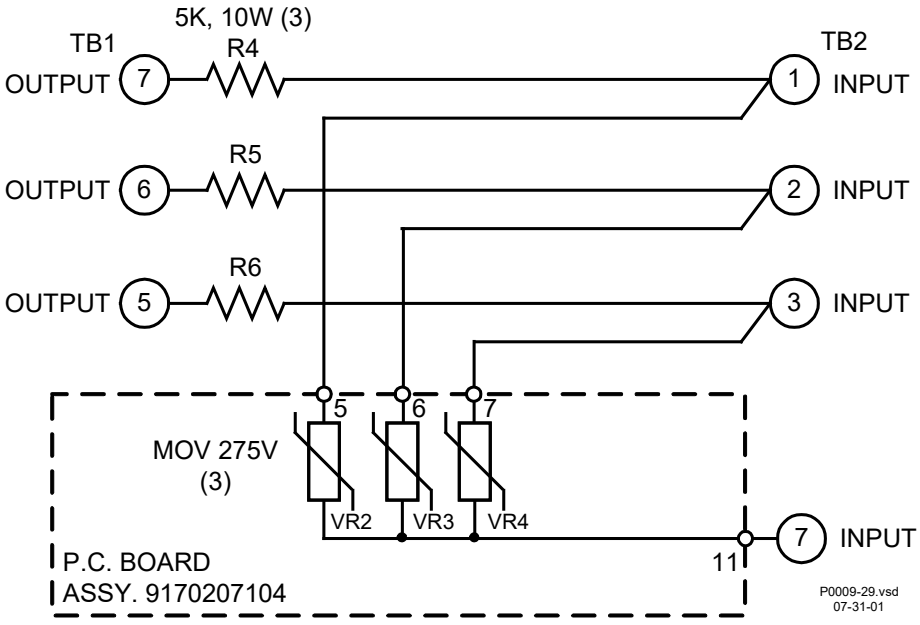

Figure 7. Three Non-Isolated Contacts, Part Number 9170206109

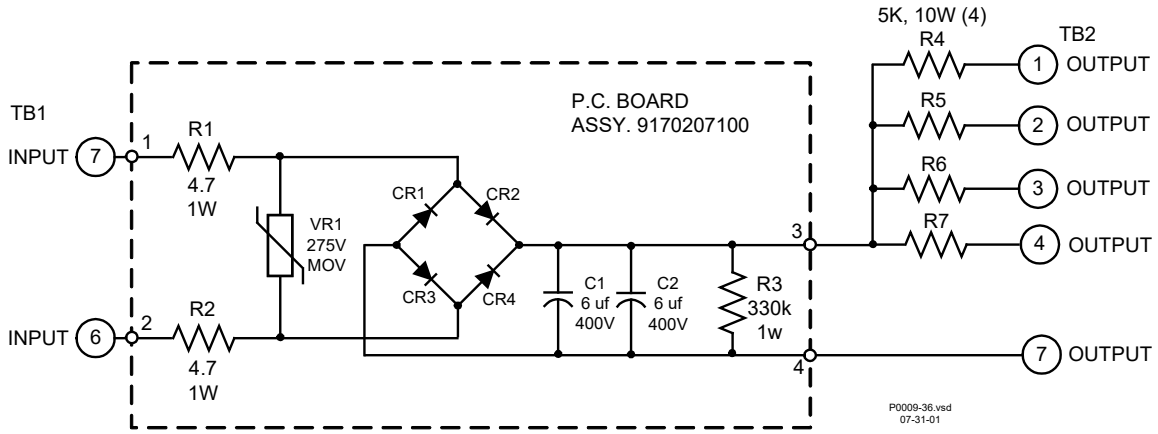

Figure 8. Four Isolated Contacts, Part Number 9170206102

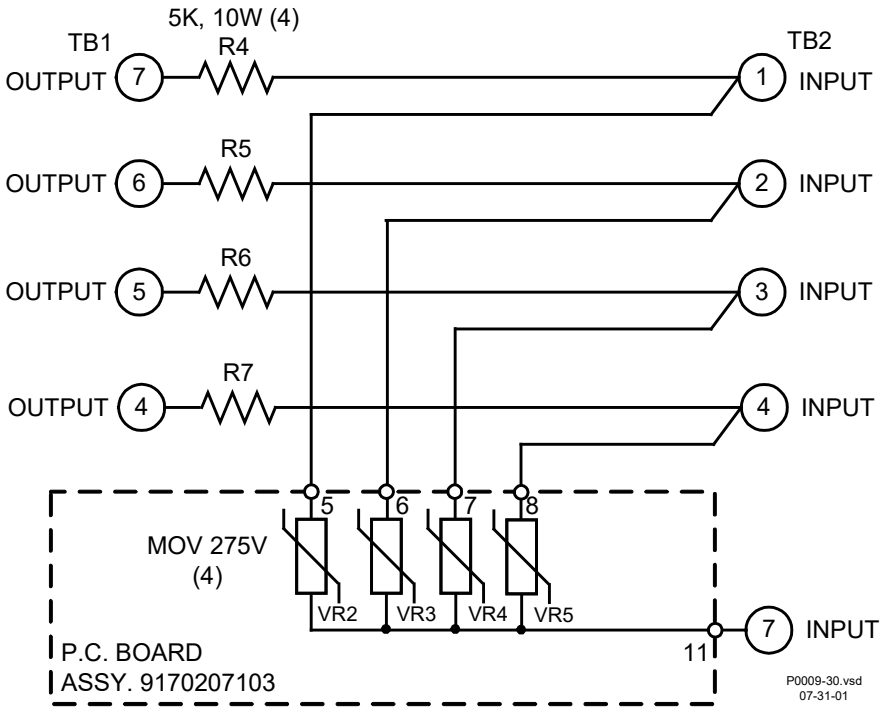

Figure 9. Four Non-Isolated Contacts, Part Number 9170206108

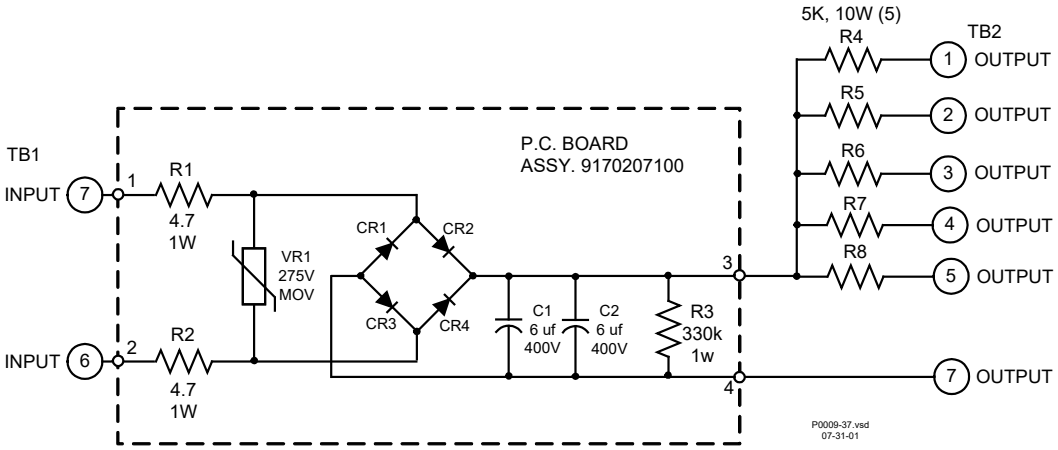

Figure 10. Five Isolated Contacts, Part Number 9170206101

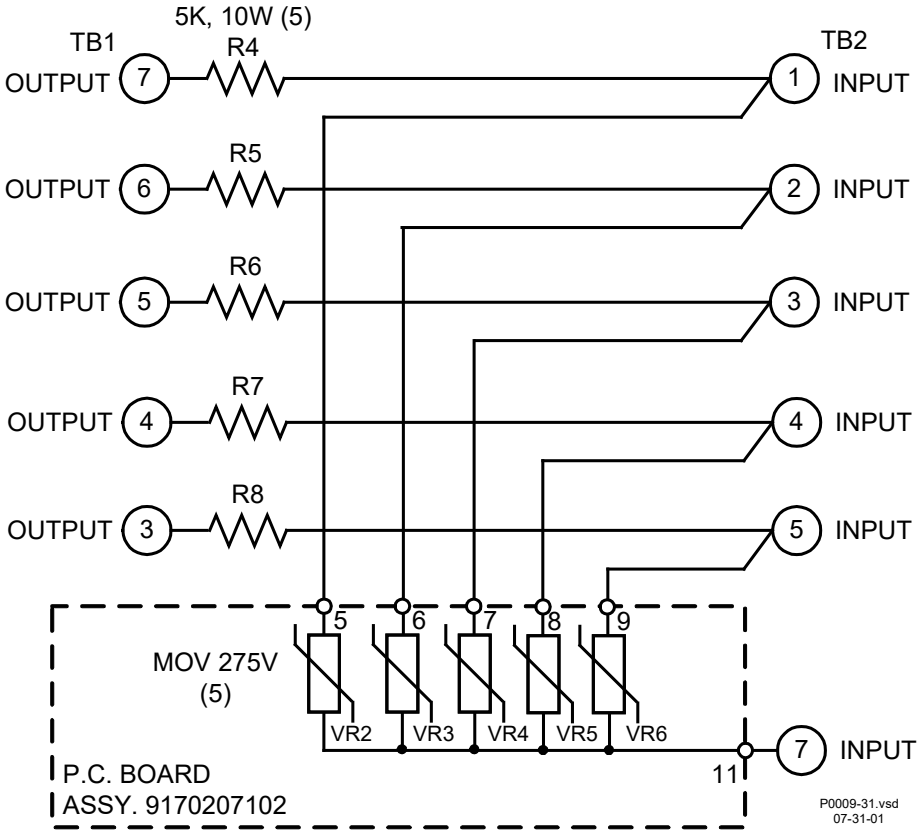

Figure 11. Five Non-Isolated Contacts, Part Number 9170206107

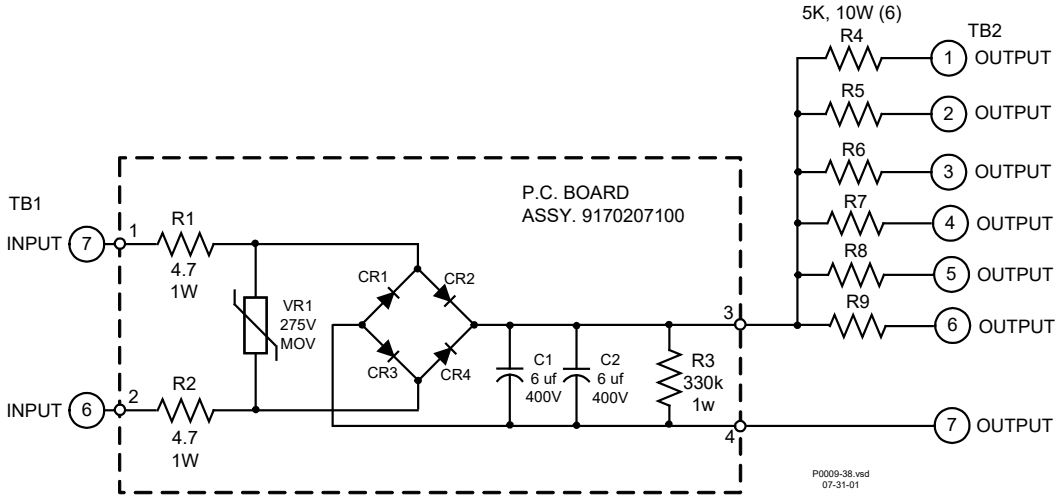

Figure 12. Six Isolated Contacts, Part Number 9170206100

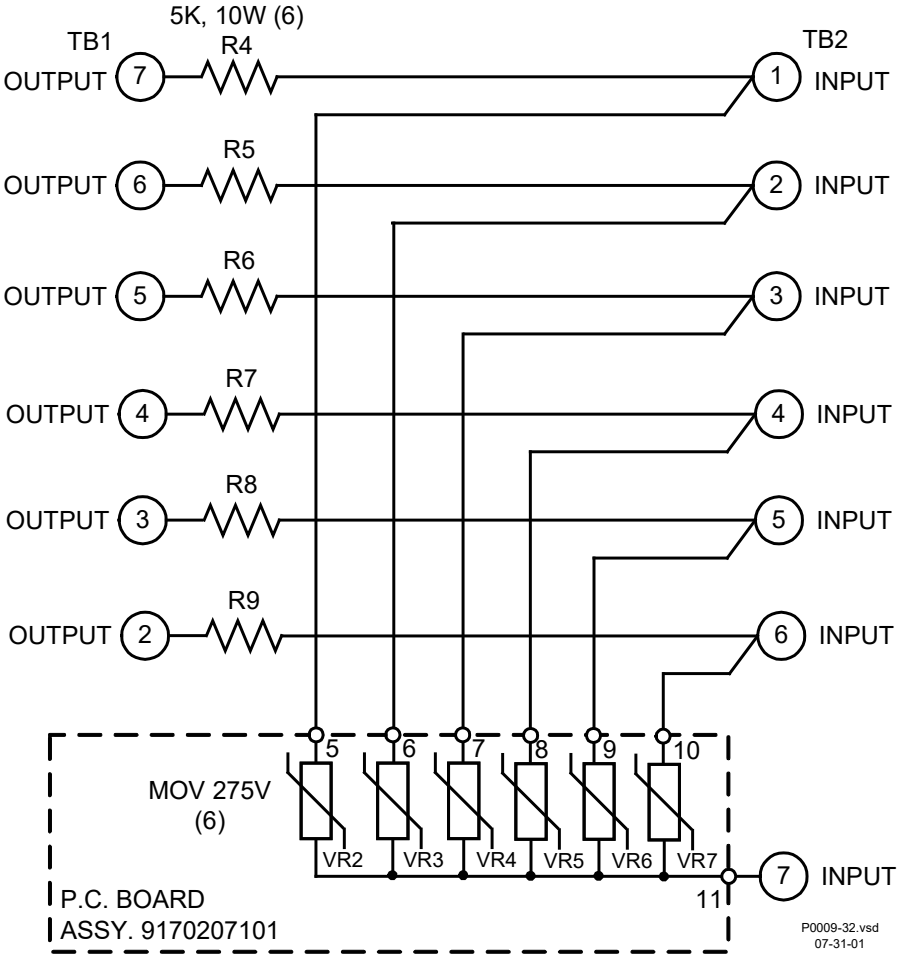

Figure 13. Six Non-Isolated Contacts, Part Number 9170206106