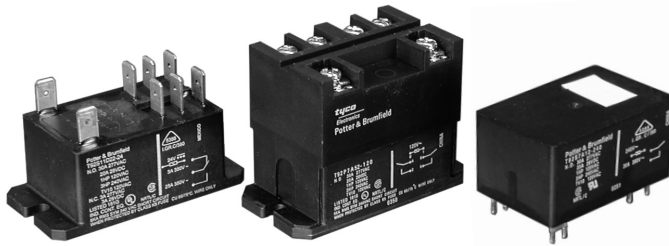




**EN:** This Datasheet/Document is presented by the manufacturer.

Please visit our website for pricing and availability at [www.hestore.hu](http://www.hestore.hu).



## Features

- 30A DPST-NO and DPDT switching capabilities.
- Designed to control compressor loads to 3.5 tons, 25.3 FLA, 110 LRA.
- Extended life – >300,000 operations at 30A, 240VAC (DC coil).  
 >100,000 operations at 30A, 240VAC (AC coil).
- Meets requirements of UL873 and UL508 spacings.  
 – .315" (8mm) through air, .375" (9.5mm) over surface.
- Meets requirements of VDE 8mm spacing, 4kV dielectric coil-to-contacts.
- Meets requirements of UL Class F construction.
- UL approved for 600VAC switching (1.5HP).
- Conforms to VDE 0435, 0631, and 0700.
- New screw terminal version.

## Contact Ratings @ 25°C with relay properly vented. Remove tape over vent hole after soldering and cleaning.

**Arrangements:** 2 Form A (DPST-NO) and 2 Form C (DPDT).

**Materials:** Silver cadmium oxide and silver tin indium oxide.

**Max. Load Rating, Silver Cadmium Oxide Contacts:**

### Normally Open Contacts:

40A @ 277VAC, resistive; 6K Ops. (Flange Mount);  
 30A @ 120/277VAC, resistive;  
 10A @ 600VAC, resistive;  
 1 HP @ 120VAC, 3 HP @ 240VAC; 1.5 HP @ 480VAC, 1.5 HP @ 600VAC  
 110 LRA, 25.3 FLA, @ 240VAC with DC coil<sup>(1)</sup>;  
 60 LRA, 14 FLA @ 240VAC with AC coil;  
 3A @ 240VAC pilot duty;  
 20A @ 28VDC;  
 TV10 @ 120VAC.

**VDE Rating (Flange Mount):** 20A @ 400VAC, 100K Ops. (30K Ops. for Form C Models).

**VDE Rating (PC Mount):** 30A @ 400VAC, 100K Ops. (30K Ops. for Form C Models).

### Normally Closed Contacts:

3A @ 28VDC or 277VAC, 2A @ 480VAC, 1A @ 600VAC.  
**VDE Rating (Flange or PC Mount):** 3A @ 400VAC, 30K Ops.

**Max. Load Rating, Silver Tin Indium Oxide Contacts**

### Normally Open Contacts Only:

30A @ 120/277VAC, resistive; 200K Ops., DC Coil; 100K Ops, AC Coil  
 20A @ 480VAC, resistive;  
 1.5 HP @ 120VAC, 2 poles making/breaking (see Fig. 1)  
 3 HP @ 240VAC, 3 phase, DC coil only;  
 3 HP @ 480VAC, 3 phase, DC coil only;  
 2 HP @ 600VAC, 3 phase, DC coil only.

### Min. Load Rating:

**Normally Open Contacts:** 500mA @ 12VAC/VDC.

**Normally Closed Contacts:** 100mA @ 6VAC/VDC.

**Expected Mechanical Life:** 5 million operations.

**Expected Electrical Life:** 100,000 operations at rated load, except as specifically noted otherwise.

# T92 series Two-Pole, 30 Amp PC Board or Panel Mount Relay

File E22575

File LR15734

File E22575 (type 2,3,4,5)

File No. 5386 (type 1,2,3,4)

Users should thoroughly review the technical data before selecting a product part number. It is recommended that user 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.

## Contact Ratings (continued)

### ARI 780-86 Endurance Test (section 6.6):

HVAC Definite Purpose Contactor Standard

### Normally Open Contacts

Single Phase/Two Pole (Both poles together switching a single load)  
 110 LRA, 25.3 FLA, 200K operations (DC Coil)

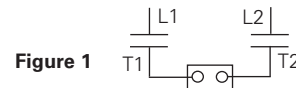


Figure 1

Single Phase Per Pole (Single load per pole)  
 110 LRA, 18 FLA, 200K operations (DC Coil).  
 60 LRA, 14 FLA, 200K operations (AC Coil).

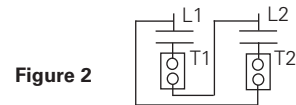


Figure 2

**Notes:** Vent hole tape must be removed to achieve all listed ratings.

## Initial Dielectric Strength

**Between Contacts and Coil:** 4,000V rms, 50/60 Hz.

**Between Open Contacts:** 1,500V rms, 50/60 Hz.

**Between Poles:** 2,000V rms, 50/60 Hz.

## Initial Insulation Resistance

**Between Mutually Insulated Elements:** 10<sup>9</sup> ohms, min. @ 500VDC.

## Coil Data

**Voltage:** 12 through 110VDC and 12 through 277VAC.

**Resistance:** See Coil Data table.

**Nom. Power:** AC Coil: 4.0VA; DC Coil: 1.7W.

**Coil Temp. Rise:** 35°C/W.

**Max. Coil Temp.:** 155°C.

**Duty Cycle:** Continuous.

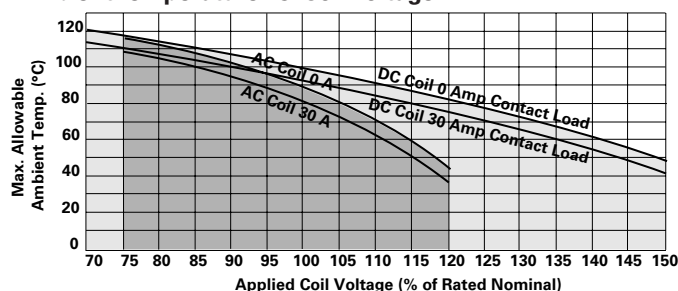
## Coil Data (@ 25°C Coil Temperature)

| DC Coils (1.7W)    |                        |                        |                    |                        |                        |
|--------------------|------------------------|------------------------|--------------------|------------------------|------------------------|
| Nom. Voltage (VDC) | DC Resist. ±10% (Ohms) |                        | Nom. Voltage (VDC) | DC Resist. ±10% (Ohms) |                        |
| 12                 | 86                     |                        | 48                 | 1,390                  |                        |
| 24                 | 350                    |                        | 110                | 7,255                  |                        |
| AC Coils (4.0VA)   |                        |                        |                    |                        |                        |
| Nom. Voltage (VAC) | Freq.                  | DC Resist. ±10% (Ohms) | Nom. Voltage (VAC) | Freq.                  | DC Resist. ±10% (Ohms) |
| 12                 | 60                     | 9.1                    | 110/120            | 50/60                  | 950                    |
| 24                 | 60                     | 36.6                   | 200/208            | 50/60                  | 2,841                  |
|                    |                        |                        | 220/240            | 50/60                  | 3,800                  |
|                    |                        |                        | 250/277            | 50/60                  | 5,485                  |

## Notes

- (1) FLA, LRA ratings are compatible with 3.5 ton compressor applications.
- (2) Nominal voltage, no coil suppression, excluding bounce.

## Ambient Temperature vs. Coil Voltage



## Assumptions:

1. Thermal resistance = 35°C per Watt (DC only.)
2. Still air.
3. Nominal coil resistance.
4. Max. mean coil temperature = 155°C (change of resistance method).
5. Coil temperature rise due to load = 6.3°C @ 30 amps.
6. Curves are based on 1.7W at 25°C (DC only.)

## Operate Data

**Must Operate Voltage:** AC Coil: 80% of nominal voltage or less.  
DC Coil: 75% of nominal voltage or less.

**Must Release Voltage:** 10% of nominal voltage or more.

**Initial Operate Time<sup>(2)</sup>:** 15 ms typical, (25 ms max. w/bounce).

**Initial Release Time<sup>(2)</sup>:** 10 ms typical, (25 ms max. w/bounce).

**Max Operating Frequency:** 14 operations per minute.

## Environmental Data

## Temperature Range:

**Storage:** -55°C to +155°C.

**Operating:** AC Coil: -40°C to +65°C.

DC Coil: Silver cadmium oxide contacts: -40°C to +85°C.  
Silver tin indium oxide contacts: -40°C to +70°C.

**Vibration:** 0.065" (1.65mm) double amplitude for 10-55 Hz., functional.

**Shock, Operational:** 10g for 11 ms, 1/2 sine wave pulse with no contact opening > 100µs.

## Mechanical Data

**Termination:** Printed circuit terminals; .250" (6.35mm) quick connects for coil and contacts; .187" (4.75mm) quick connects for coil and .250" (6.35mm) quick connects for contacts; or M4 screws with captive pressure plates for coil and contacts.

**Enclosure:** Dust protected plastic case or wash-tight, tape sealed, (washable) plastic case.

**Weight:** 3 oz. (86g) approximately.

## Conditions

All parametric, environmental and life tests are performed according to EIA Standard RS-407-A at standard test conditions (25°C ambient, 20-50% RH, 29.5 ± 1" Hg.) unless otherwise noted.

## Notes

- (1) FLA, LRA ratings are compatible with 3.5 ton compressor applications.
- (2) Nominal voltage, no coil suppression, excluding bounce.

## Ordering Information

| Typical Part Number ►                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | T92 | S | 11 | D | 2 | 2 | -24 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----|---|----|---|---|---|-----|
| <b>1. Basic Series:</b><br>T92 = Printed circuit board / panel mount power relay.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |     |   |    |   |   |   |     |
| <b>2. Enclosure:</b><br>P = Dust protected plastic case.<br>S = Wash-tight, tape sealed, plastic case (Mounting & Termination Type 1).<br>Top sealed, not wash-tight, not tape sealed on bottom (Mounting & Termination Types 2, 3 & 4).                                                                                                                                                                                                                                                                                                                                                                                    |  |     |   |    |   |   |   |     |
| <b>3. Contact Arrangement:</b><br>7 = 2 form A (DPST-NO).                      11 = 2 form C (DPDT).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |     |   |    |   |   |   |     |
| <b>4. Coil Input:</b><br>A = AC voltage, 60 Hz. or 50/60 Hz. (See Coil Data Table)                      D = DC voltage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |     |   |    |   |   |   |     |
| <b>5. Mounting &amp; Termination:</b><br>1 = Printed circuit board mount; printed circuit board terminals.<br>2 = Panel mount via flanged cover; .250" (6.35mm) x .032" (.81mm) quick connect terminals.<br>3 = Panel mount via flanged cover; .187" (4.75mm) x .032" (.81mm) quick connect terminals for coil and .250" (6.35mm) for contacts.<br>4 = Panel mount via flanged cover, .187" (4.75mm) x .020" (.51mm) quick connect terminals for coil and .250" (6.35mm) for contacts.<br>5 = Panel mount via flanged cover, M4 screw terminals w/ captive pressure plates. Requires Enclosure P and Contact Arrangement 7. |  |     |   |    |   |   |   |     |
| <b>6. Contact Material:</b><br>2 = Silver cadmium oxide.                      4 = Silver tin indium oxide.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |     |   |    |   |   |   |     |
| <b>7. Coil Voltage: (See Coil Data Table)</b><br>(DC)                      12 = 12VDC                      24 = 24VDC                      48 = 48VDC                      110 = 110VDC<br>(60Hz.)                      12 = 12VAC                      24 = 24VAC<br>(50/60Hz.)                      110 = 100/110VAC                      120 = 110/120VAC                      208 = 200/208VAC                      240 = 220/240VAC                      277 = 250/277VAC                                                                                                                                              |  |     |   |    |   |   |   |     |

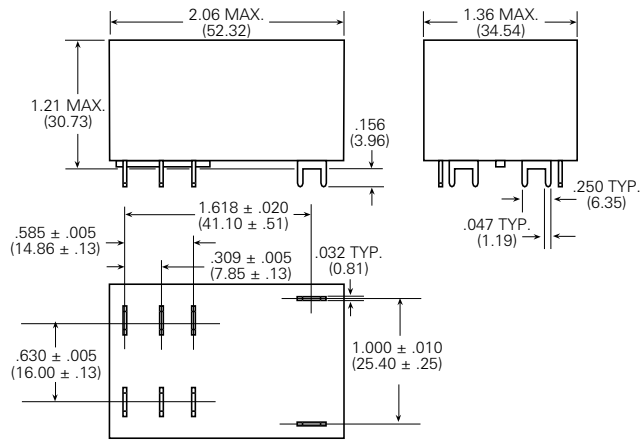
NOTE: All part numbers are RoHS compliant.

## Stock Items – We recommend that our authorized distributors stock the following items for immediate delivery.

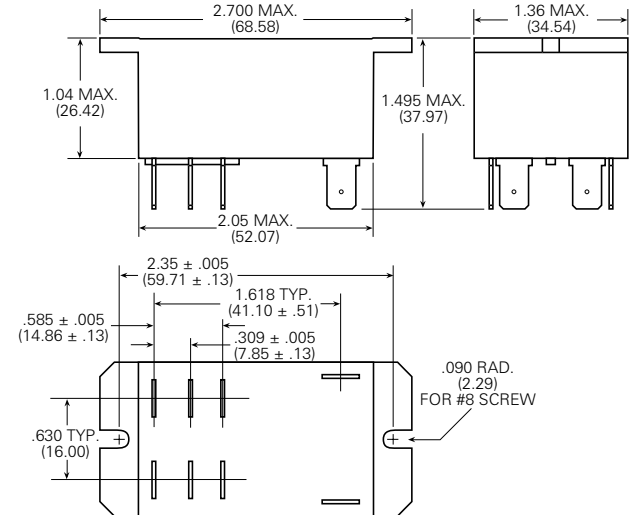
|              |              |             |              |               |              |             |              |
|--------------|--------------|-------------|--------------|---------------|--------------|-------------|--------------|
| T92P7A22-24  | T92P7A22-240 | T92P7D12-24 | T92P7D22-24  | T92P11A22-120 | T92P11D22-12 | T92S7D12-12 | T92S11D22-12 |
| T92P7A22-120 | T92P7D12-12  | T92P7D22-12 | T92P11A22-24 | T92P11A22-240 | T92P11D22-24 | T92S7D12-24 | T92S11D22-24 |

## Outline Dimensions

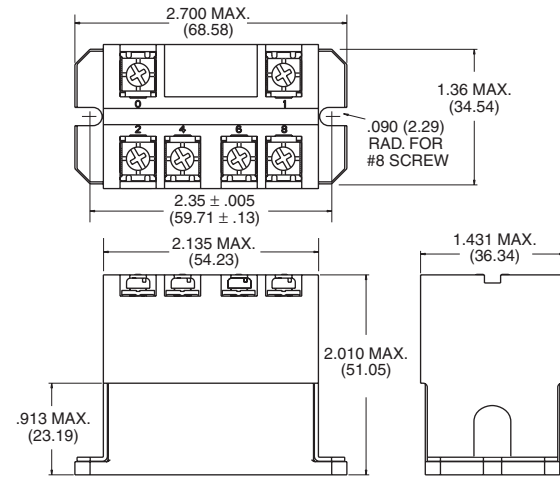
### Mounting & Termination Type 1



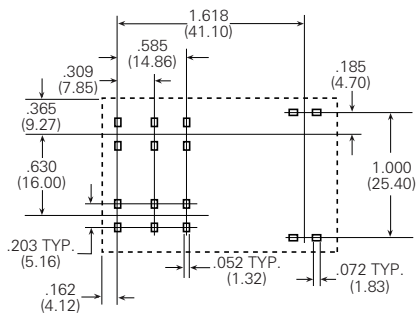
### Mounting & Termination Types 2, 3 & 4



### Mounting & Termination Type 5

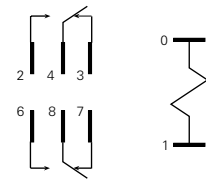


### Suggested PC Board Layout (Bottom View)



**Note:** An alternate PC board layout utilizes .076 ± .003 (1.93 ± .076) diameter holes on the same center-to-center spacing shown above. Use of the rectangular holes is recommended for improved solderability.

### Wiring Diagram



Only necessary terminals are present on single throw models.