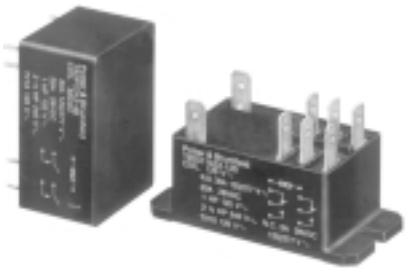


T92 series

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

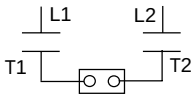
File E22575
File LR15734
File No. 5386
Type 2, 3, & 4 - File E22575

Features

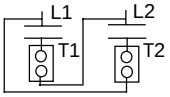
- 30A DPST-NO and DPDT switching capabilities.
- Designed to control compressor loads to 3.5 tons, 25.3 FLA, 110 LRA.
- Extended life – >300,000 operations at 30A, 240VAC (DC coil).
  >100,000 operations at 30A, 240VAC (AC coil).
- Meets requirements of UL873 and UL508 spacings.
  – .315" (8mm) through 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.

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.
Max. Load Rating:
Normally Open Contacts:
30A @ 120/277VAC, resistive;
10A @ 600VAC, resistive;
1 HP @ 120VAC, 2.5 HP @ 240VAC;1.5 HP @ 480VAC, 1.5 HP @ 600VAC
110 LRA, 25.3 FLA, @ 240VAC with DC coil(1);
60 LRA, 14 FLA @ 240VAC with AC coil·
3A @ 240VAC pilot duty;
20A @ 28VDC;
TV10 @ 120VAC.
VDE Rating (Flange Mount): 25A @ 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.
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.
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).



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



Note: 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: 10^9 ohms, min. @ 500VDC.

Coil Data

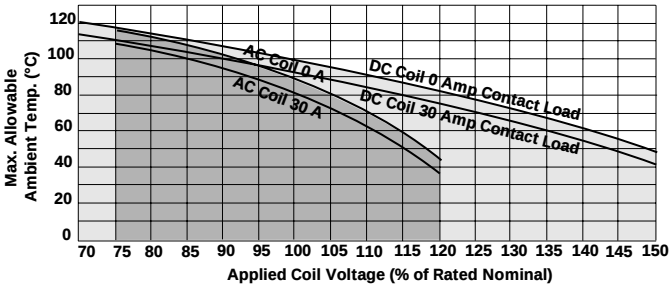
Voltage: 12 through 110VDC and 12 through 277VAC.
Resistance: See Coil Data table.
Nom. Power: AC Coil: 4.0VA; **DC Coil:** 1.7W.
Coil Temp. Rise: 35°C/W.
Max. Coil Temp.: 140°C.
Duty Cycle: Continuous.

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	220/240	50/60	3800
			250/277	50/60	5485

Ambient Temperature vs. Coil Voltage



Assumptions:
1. Thermal resistance = 35°C per Watt (DC only.)
2. Still air.
3. Nominal coil resistance.
4. Maximum mean coil temperature = 140°C using change of resistance method, Class F.
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(2): 15 ms typical, (25 ms max. w/bounce).
Initial Release Time(2): 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: -40°C to +85°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.
Shock, Mechanical: 100g for 11 ms, 1/2 sine wave pulse.
Flammability: UL 94V-0.

Mechanical Data

Termination: Printed circuit terminals; .250" (6.35mm) quick connects for coil and contacts; or .187" (4.75mm) quick connects for coil and .250" (6.35mm) quick connects for contacts.
Enclosure: Unsealed, plastic dust cover or immersion cleanable, tape sealed plastic cover.
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	B	T92	S	11	D	2	2	-24

1. Basic Series:
T92 = Printed circuit board / panel mount power relay.

2. Enclosure:
P = Plastic dust cover (unsealed). S = Immersion cleanable, tape sealed plastic case (code 1).

3. Contact Arrangement:
7 = 2 form A (DPST-NO). 11 = 2 form C (DPDT).

4. Coil Input:
A = AC voltage, 60 Hz. or 50/60 Hz. (See Coil Data Table) D = DC voltage.

5. Mounting & Termination:
1 = Printed circuit board mount; printed circuit board terminals for coil and contacts.
2 = Panel mount via flanged cover; .250" (6.35mm) x .032" (.81mm) quick connect terminals for coil and contacts.
3 = Panel mount via flanged cover; .187" (4.75mm) x .032" (.81mm) quick connect terminals for coil and .250" (6.35mm) for contacts.
4 = Panel mount via flanged cover, .187" (4.75mm) x .020" (.51mm) quick connect terminals for coil and .250" (6.35mm) for contacts.

6. Contact Material:
2 = Silver cadmium oxide.

7. Coil Voltage: (See Coil Data Table)

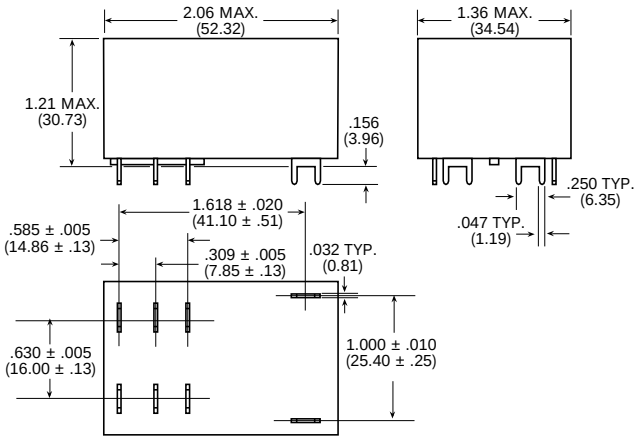
(DC)	12 = 12VDC	24 = 24VDC	48 = 48VDC	110 = 110VDC
(60Hz.)	12 = 12VAC	24 = 24VAC		
(50/60Hz.)	110 = 100/110VAC	120 = 110/120VAC	240 = 220/240VAC	277 = 250/277VAC

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

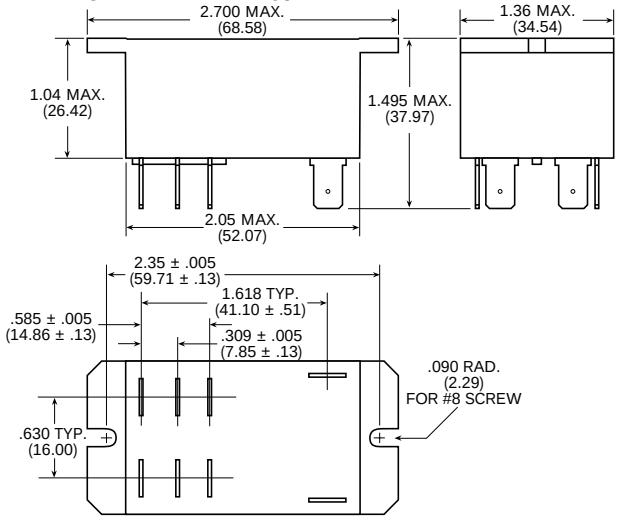
T92P7A22-24	T92P7A22-240	T92P7D12-24	T92P7D22-24	T92P11A22-120	T92P11D22-12	T92S7D12-12	T92S11D22-12
T92P7A22-120	T92P7D12-12	T92P7D22-12	T92P11A22-24	T92P11A22-240	T92P11D22-24	T92S7D12-24	T92S11D22-24

Outline Dimensions

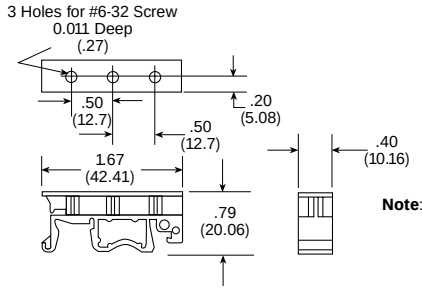
Mounting & Termination Type 1



Mounting & Termination Types 2, 3 & 4

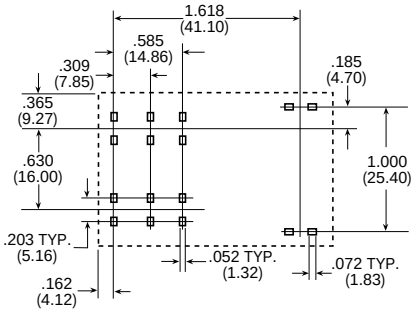


DIN Mount Adapter - 9T91A001



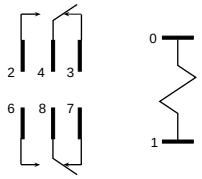
Note: Fits 35mm din track
Includes: 2 Din clips
2 Screws
Must be ordered in multiples of 50.

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.

Tyco Electronics Corporation - P&B, Winston-Salem, NC 27102
Technical Support Center: 1-800-522-6752, www.pandbrelays.com