

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

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

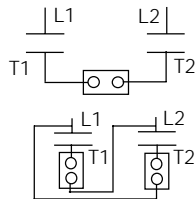
Features

- 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.

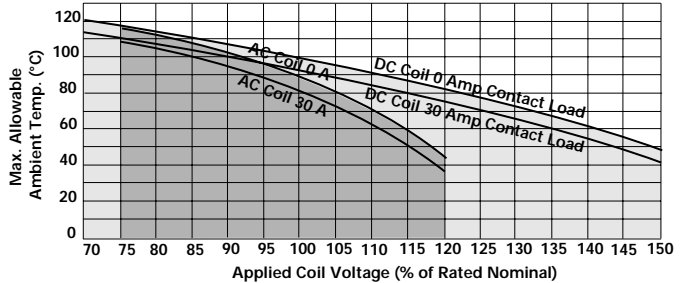
Initial Insulation Resistance

Between Mutually Insulated Elements: 10⁹ 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.

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)**

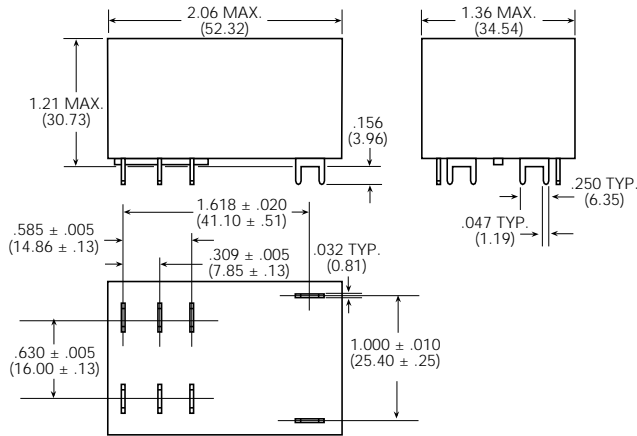
(DC)	12 = 12VDC	24 = 24VDC	48 = 48VDC	110 = 110VDC
(60Hz.)	12 = 12VAC	24 = 24VAC		
(50/60Hz.)	110 = 100/110VAC	120 = 110/120VAC	240 = 220/240VAC	277 = 250/277VAC

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

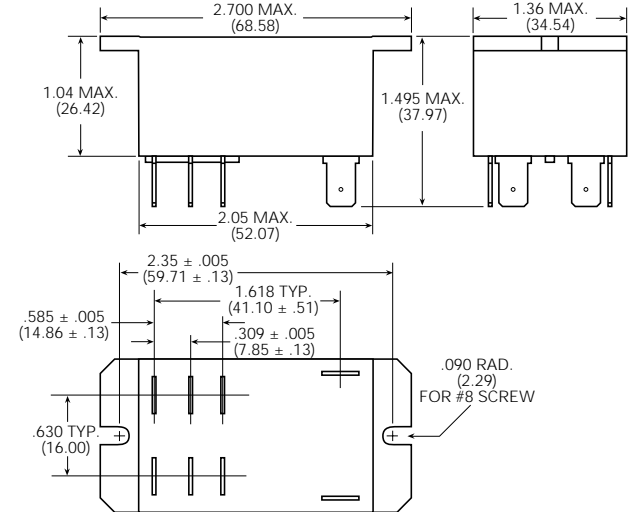
T92P7A22-24 T92P7A22-240 T92P7D12-24 T92P7D22-24 T92P11A22-120 T92P11D22-12 T92S7D12-12 T92S11D22-12
 T92P7A22-120 T92P7D12-12 T92P7D22-12 T92P11A22-24 T92P11A22-240 T92P11D22-24 T92S7D12-24 T92S11D22-24

Outline Dimensions

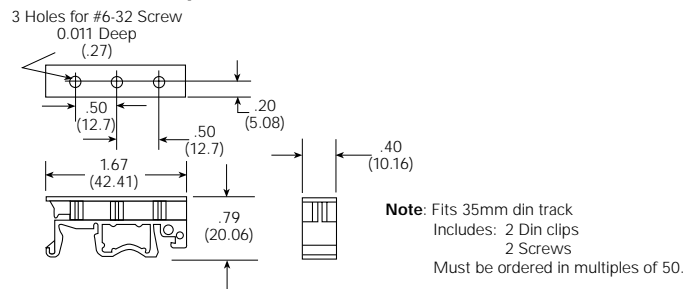
Mounting & Termination Type 1



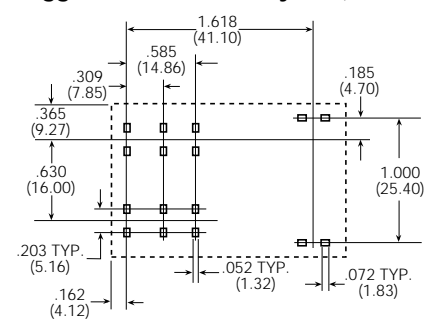
Mounting & Termination Types 2, 3 & 4



DIN Mount Adapter - 9T91A001

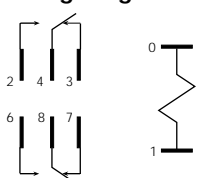


Suggested PC Board Layout (Bottom View)



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.