

T7N series

10 Amp Miniature PC Board Relay

UL File E22575

SP File LR48471



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.

Features

- Low cost, reduced height, 10A relay.
- 1 Form A and 1 Form C contact arrangement.
- Plastic materials employ UL 94V-0 flammability.
- UL class F (155°C) coil standard.
- Immersion cleanable, sealed package.
- Applications include appliance, HVAC, security system, garage opener light, emergency lighting.
- European "white goods" version available by special order.

Contact Data @ 20°C

Arrangements: 1 Form A (SPST-NO) and 1 Form C (SPDT).

Material: Silver-cadmium oxide.

Max. Switching Rate: **Mechanical:** 300 operations/min.

Electrical: 30 operations/min.

Expected Mechanical Life: 10 million operations min. (no load).

Expected Electrical Life: 100,000 operations min. (at rated coil voltage).

Minimum Contact Load: 10mA @ 5VDC.

Initial Contact Resistance: 100 milliohms, max. @ 1A, 6VDC.

UL Contact Ratings @ 20°C with relay properly vented. Remove vent nib after soldering and cleaning.

Contact Arrang.	UL/CSA Ratings	Type	Operations
1 & 5	1/4HP @ 240VAC	Motor	1,000*
	1/3HP @ 120VAC	Motor	6,000
	1/3HP NO @ 120VAC	Motor	6,000
	1/3HP NO @ 240VAC	Motor	6,000**
	5A/5A @ 240VAC	Resistive	6,000*
	10A NO @ 240VAC	Resistive	6,000
	10A/5A @ 240VAC	Gen. Purpose	6,000
	8A NC @ 240VAC	Resistive	6,000
	1/6HP NC @ 240VAC	Motor	6,000**
	1/4HP NO @ 240VAC	Motor	6,000**
	1/10HP NO @ 120VAC	Motor	6,000**
	10A/5A @ 240VAC	Resistive	6,000**
	TV-3 NO @ 120VAC	Tungsten	25,000
	6A NC @ 240VAC	Resistive	25,000**
	10A/5A @ 240VAC	Resistive	30,000
	10A/5A @ 28VDC	Resistive	30,000
	10A NO @ 240VAC	Resistive	30,000**
	10A NO @ 240VAC	Gen. Purpose	30,000**
	34.8LRA/6FLA NO @ 120VAC	Motor	100,000
	10A/5A @ 120VAC	Resistive	100,000
5A/5A @ 240VAC	Resistive	100,000	
10A/5A @ 28VDC	Resistive	100,000	

*Denotes test at 70°C ambient temperature.

**Denotes test at 85°C ambient temperature.

Initial Dielectric Strength

Between Open Contacts: 750VAC, 50/60 Hz. (1 min.)

Between Coil and Contacts: 2,000VAC, 50/60 Hz. (1 min.)

Initial Insulation Resistance

Between Mutually Insulated Elements: 10⁸ ohms, min. @ 500VDC.

Coil Data

Voltage: 3 through 48VDC.

Nom. Power: 360mW.

Coil Temp. Rise: See Figure 1.

Max. Coil Power: 150% of nominal.

Duty Cycle: Continuous.

Coil Data @ 20°C

Rated Coil Voltage (VDC)	Coil Resistance ±10% (Ohms)	Must Operate Voltage (VDC)	Must Release Voltage (VDC)
3	25	2.1	.15
5	70	3.5	.25
6	100	4.2	.30
9	225	6.3	.45
12	400	8.4	.60
18	900	12.6	.90
24	1,600	16.8	1.20
36	3,600	25.2	1.80
48	6,400	33.6	2.40

Operate Data @ 20°C

Operate Time: 10 ms, max. (excluding bounce).

Release Time: 5 ms, max. (excluding bounce).

Environmental Data

Temperature Range:

Storage: -40°C to +130°C.

Operating: -40°C to +85°C. (no water condensation and no water drop).

Vibration: 10-55 Hz., .063" (1.6mm) double amplitude;
10-55 Hz., .079" (2.0mm) double amplitude.

Shock: Mechanical: 100g minimum.

Operational: 10g minimum.

Operating Humidity: 45 to 85% RH.

Mechanical Data

Termination: Printed circuit terminals.

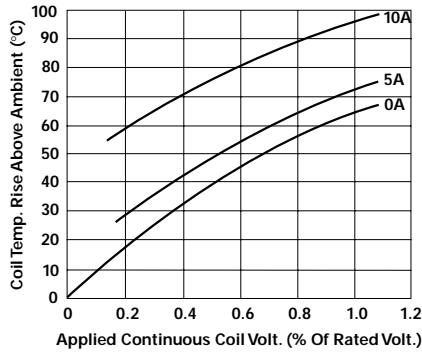
Enclosure (UL 94V-0 Flammability Ratings):

T7NS: Immersion cleanable case with knock-off nib for ventilation.

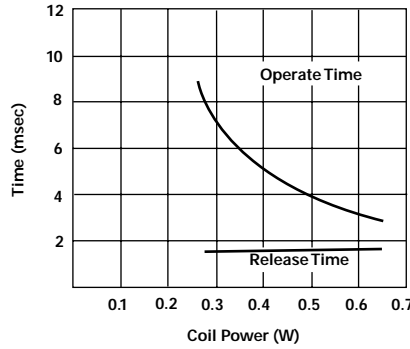
T7NV: Vented, flux-tight plastic cover.

Weight: 0.38 oz. (11g) approximately.

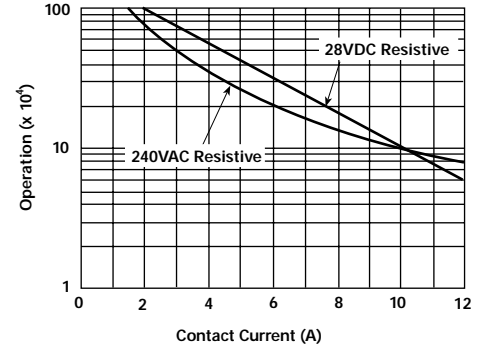
Figure 1 – Coil Temperature Rise



Operate Time



Life Expectancy



Note: Graphical data should not be used as a substitute for specific application verification. To be used for estimates only.

Ordering Information

Typical Part Number ▶ **T7N S 5 D 1 -24**

- Basic Series:**
T7N = Miniature, printed circuit board relay.
- Enclosure:**
V = Vented, flux-tight* S = Immersion cleanable case with knock-off nib.
- Contact Arrangement:**
1 = 1 Form A (SPST-NO) 5 = 1 Form C (SPDT)
- Coil Input:**
D = DC Coil.
- Contact Material:**
1 = Silver-cadmium oxide contacts.
- Coil Voltage:**
03 = 3VDC 06 = 6VDC 12 = 12VDC 24 = 24VDC 48 = 48VDC
05 = 5VDC 09 = 9VDC 18 = 18VDC 36 = 36VDC

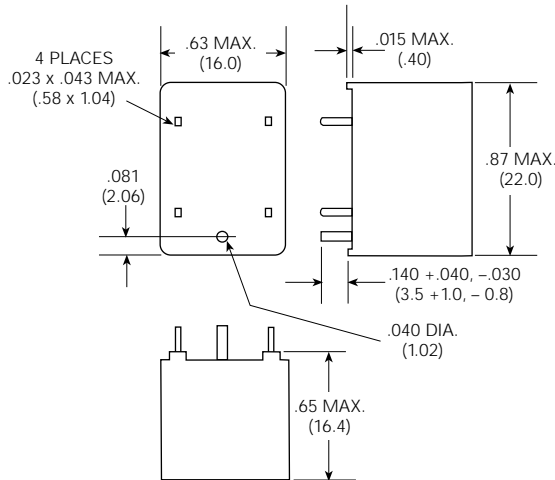
* Not suitable for immersion cleaning.

Our authorized distributors are more likely to maintain the following items in stock for immediate delivery.

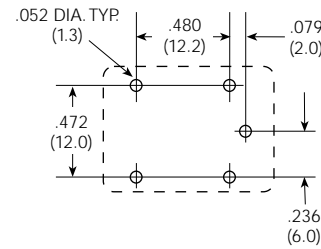
- T7NS1D1-12 T7NS5D1-05 T7NS5D1-24
- T7NS1D1-24 T7NS5D1-12 T7NS5D1-48

Outline Dimensions

Tolerance (unless otherwise noted): 3 decimal: ±.010 (±.254); 2 decimal: ±.015 (±.381).

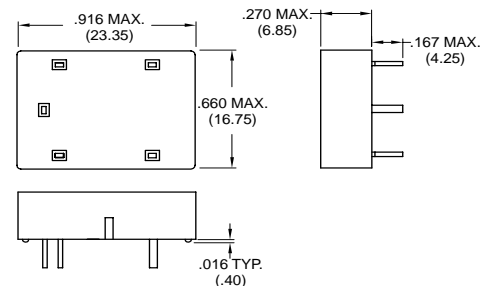


Suggested PC Board Layout (Bottom View)



Socket

27E1064 socket is rated 10A @ 300VAC. UL Recognized for US and Canada. Designed to fit same suggested board layout as relay.



Wiring Diagram (Bottom View)

