



# PT series

## 6 to 12 Amp Miniature Relay 2, 3 or 4 Pole, PCB or Plug-in

UL File E79990  
NR 5353

Users should thoroughly review the technical data before selecting a product part number. It is recommended that users 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 profile height of 29mm.
- DPDT, 3PDT or 4PDT contact arrangements.
- Greater switching performance – up to 3,000VA.
- AC and DC coils.
- Mechanical indicator.
- Manual test tab with locking option available.

### Contact Data @ 20°C

**Arrangements:** 2 Form C (DPDT), 3 Form C (3PDT) and 4 Form C (4PDT).

**Material:** Silver-nickel 90/10 with optional gold plating.

**Minimum Load:** Silver-nickel 90/10: 10mA @ 12V.

Silver-nickel 90/10 with gold plating: 1mA @ 20mV.

**Expected Mechanical Life:** DC coil 30 million operations minimum.

AC coil 20 million operations minimum.

### Ratings:

Arrangement	2 Form C	3 Form C	4 Form C
Rated Current	12A	10A	6A
Rated Voltage	250VAC	250VAC	250VAC
Maximum Switching Voltage	440VAC	440VAC	440VAC
Rated Breaking Capacity	3,000VA	2,500VA	1,500VA
Maximum Make Current	24A	20A	12A

### Initial Dielectric Strength

**Between Open Contacts:** 1,500VAC, typ.

**Between Coil and Contacts:** 2,500VAC; 5,000V surge (1.2 / 50µs).

**Between Poles:** 2 and 3 Pole: 2,500VAC, 4 Pole: 2,000VAC.

### DC Coil Data @ 20°C

Nominal Coil Power: 750mW

Nominal Voltage VDC	DC Resistance in Ohms ±10%	Must Operate Voltage VDC	Drop-out Voltage VDC	Nominal Coil Current (mA)
06	48	4.5	0.6	125.0
12	192	9.0	1.2	62.5
24	777	18.0	2.4	30.8
48	3,072	36.0	4.8	15.6
60	4,845	45.0	6.0	12.4
110	16,133	82.5	11.0	6.8
220	64,533	165.0	22.0	3.4

### AC Coil Data @ 20°C

Nominal Coil Power: 1.0VA @ 50 Hz. / 0.86VA @ 60 Hz.

Nominal Voltage VAC	DC Resistance in Ohms ±10%	Must Operate Voltage (VAC) 50 Hz / 60 Hz	Drop-out Voltage VAC	Nominal Coil Current (mA) 50 Hz. / 60 Hz.
06	11	4.8 / 5.4	1.8	166.5 / 141
12	48	9.6 / 10.8	3.6	83.3 / 70.5
24	192	19.2 / 21.6	7.2	41.6 / 33.0
48	777	38.4 / 43.2	14.4	21.3 / 18.2
60	1,306	48.0 / 54.0	18.0	16.7 / 14.5
115	4,845	92.0 / 103.5	34.5	8.8 / 7.5
230	19,465	184.0 / 207.0	69.0	4.3 / 3.9

Dimensions are shown for reference purposes only.

Dimensions are in inches over (millimeters) unless otherwise specified.

### Operate Data

**Must Operate Voltage:** See Coil Data table.

**Operate Time :** 15 ms typical, at nom. voltage.

**Release Time :** 10 ms typical, at nom. voltage.

**Bounce Time:** 5 ms typical, at nom. voltage.

**Switching Rate:** 6 ops./minute max. at rated load.

### Environmental Data

**Temperature Range:**

**Storage:** -45°C to +80°C.

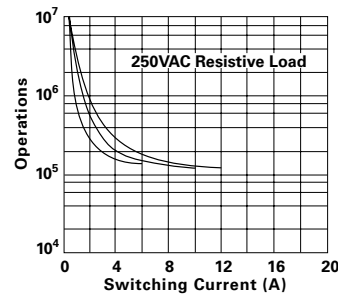
**Operating:** -45°C to +70°C.

**Vibration:** 55 to 150 Hz. at 7g N/O, 4g N/C.

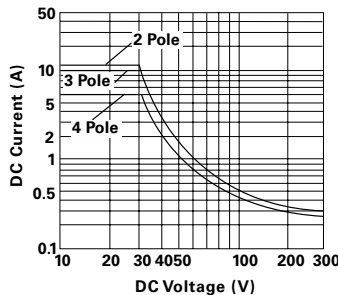
**Operational Shock:** 20g N/O, 5g N/C.

**Mechanical Shock:** 50g.

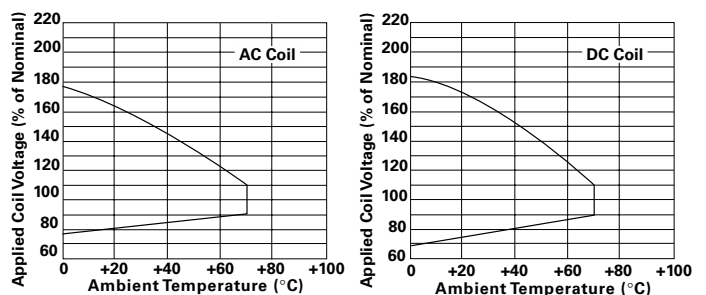
### Electrical Life



### Max. DC Load Breaking Capacity (resistive load)



### Coil Operating Range



Specifications and availability subject to change.

www.tycoelectronics.com  
Technical support:  
Refer to inside back cover.

Ordering Information

Typical Part Number ▶

PT

2

7

0

024

1. Basic Series:

PT = General purpose relay.

2. Contact Arrangement:

2 = 2 Form C (DPDT)    3 = 3 Form C (3PDT)    5 = 4 Form C (4PDT)

3. Contact Material and Test Button Option:

2 = Silver-Nickel 90/10, no test button.    3 = Silver-Nickel 90/10, with gold plating, no test button.  
7 = Silver-Nickel 90/10 with locking test button.    8 = Silver-Nickel 90/10, with gold plating, and locking test button.

4. Termination:

0 = Socket mount, solder terminals.    1 = Printed circuit board terminal.

5. Coil Voltage:

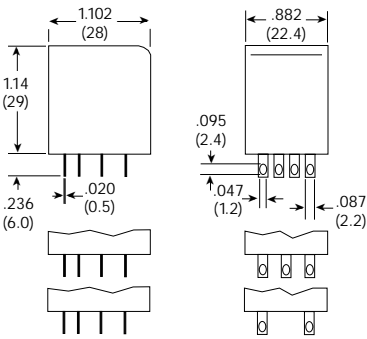
006 = 6VDC    012 = 12VDC    024 = 24VDC    048 = 48VDC    060 = 60VDC    110 = 110VDC    220 = 220VDC  
506 = 6VAC    512 = 12VAC    524 = 24VAC    548 = 48VAC    560 = 60VAC    615 = 115VAC    730 = 230VAC

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

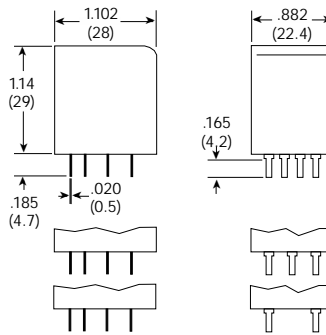
PT220024	PT221024	PT270024	PT320024	PT321024	PT370024	PT520024	PT521024	PT570024	PT580024
PT220524	PT221524	PT270524	PT320524	PT321524	PT370524	PT520524	PT521524	PT570524	PT580524
PT220615	PT221615	PT270615	PT320615	PT321615	PT370615	PT520615	PT521615	PT570615	PT580615

Outline Dimensions

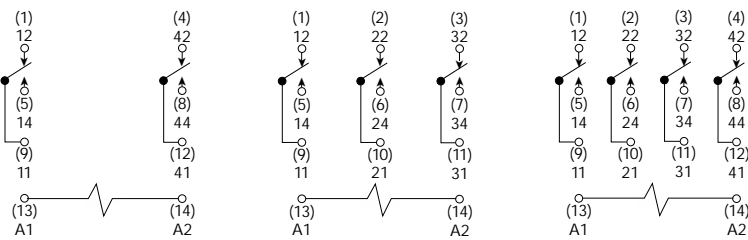
Socket Mount, Solder Terminals



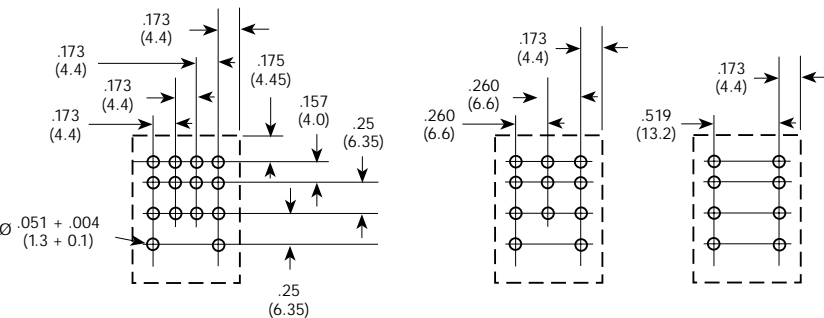
Printed Circuit Board Terminals



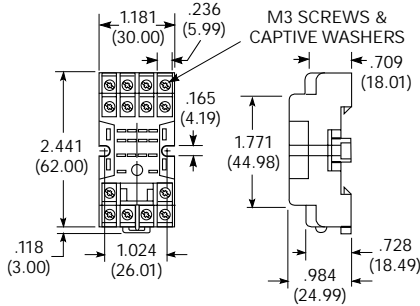
Wiring Diagrams (Bottom Views)



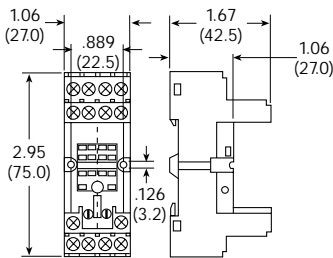
PC Board Layout (Bottom Views)



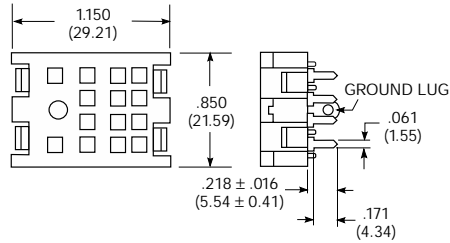
**27E894**  
**DIN Rail Socket with Screw Terminals, 4 pole**



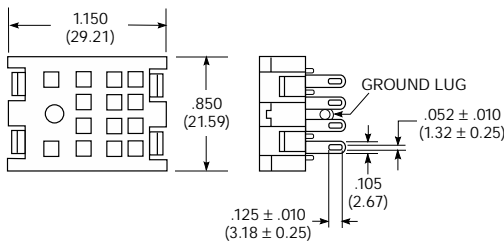
**PT78702, PT78703, PT78704 (2, 3 and 4 Pole)**  
**DIN Rail Socket with Screw Terminals**



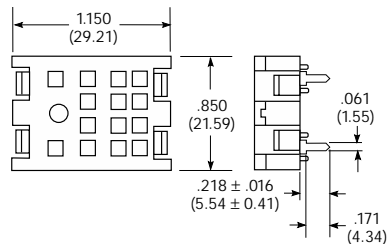
**27E023**  
**4 Pole Socket with PCB Terminals**



**27E006**  
**4 Pole Socket with Solder Terminals**



**27E220**  
**2 Pole Socket with PCB Terminals**



**Socket Selection Table**  
Stock items are boldfaced.

Socket Part No.	Socket Termination	Mounting Style	No. of Poles	Accepts Modules?
<b>27E894</b>	Screw Terminals	DIN-rail	4	No
<b>PT78702</b>	Screw Terminals	DIN-rail	2	Yes
<b>PT78703</b>	Screw Terminals	DIN-rail	3	Yes
<b>PT78704</b>	Screw Terminals	DIN-rail	4	Yes
<b>27E006</b>	.375 (9.53) Solder Terminals	Panel Cutout	4	No
<b>27E220</b>	.218 (5.54) Solder Terminals	PC Board	2	No
<b>27E023</b>	.218 (5.54) PCB Terminals	PC Board	4	No

**LED and Protection Module Selection Table**  
Stock items are boldfaced.

Module Part No.	Type
<b>RPM T0 0A0</b>	Protection diode 1N4007 (Note 1)
<b>RPM U0 548</b>	RC network 24-48VAC
<b>RPM U0 730</b>	RC network 110-230VAC
<b>RPM L0 024</b>	LED 12-24VDC (Note 1)
<b>RPM L0 524</b>	LED 12-48VAC/VDC
<b>RPM L0 110</b>	LED 110VDC (Note 1)
<b>RPM L0 730</b>	LED 110-230VAC

Note 1: Standard polarity: A1: +, A2: -