

PCH series

5 - 10 Amp Miniature 1 Form A or C Power PC Board Relay

Air Conditioners, Refrigerators, Microwave Ovens

UL File No. E82292
CSA File No. LR48471
VDE File No. 119568

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

- 1 Form A (SPST-NO) or 1 Form C (SPDT) contact arrangements.
- 5 or 10A ratings.
- Compact size 20L x 10W x 15.2H (mm).
- High surge voltage of 8000V.
- Cadmium-free contacts.
- Sensitive (200mW) coil available on 1 Form A types.
- UL, CSA, VDE approval.

Contact Data @ 20°C

Arrangements: 1 Form A (SPST-NO) and 1 Form C (SPDT).
Material: AgSnO.
Max. Switching Rate: 300ops./ min. (no load).
20ops./ min. (rated load).
Expected Mechanical Life: 5 million ops (no load).
Expected Electrical Life: 100,000ops (rated load).
Minimum Load: 100mA @ 5VDC.
Initial Contact Resistance: 100 milliohms @ 1A, 6VDC.

Contact Ratings

Ratings: **Models with 1 Form C Contacts, 400mW Coil**
5A (NO) /3A (NC) @ 30VDC resistive.
5A (NO) /3A (NC) @ 277VAC resistive.
10A (NO) @ 125VAC resistive.
TV-3 (NO).
Models with 1 Form A Contacts, 400mW Coil
5A @ 277VAC/30VDC resistive.
10A @ 125VAC resistive.
TV-3.
Models with 1 Form A Contacts, 200mW Coil
5A @ 277VAC/30VDC resistive.
10A @ 125VAC resistive.
Max. Switched Voltage: AC: 277V.
DC: 30V.
Max. Switched Current: 10A (NO) / 3A(NC).
Max. Switched Power: 1400VA, 150W (NO); 850VA, 90W (NC).

Initial Dielectric Strength

Between Open Contacts: 750VAC, 50/60 Hz. (1 min.).
Between Contacts and Coil: 4,000VAC, 50/60 Hz. (1 min.).
Surge Voltage Between Coil and Contacts: 8,000V (1.2/50µs).

Initial Insulation Resistance

Between Mutually Insulated Conductors: 1000Mohm @ 500VDCM.

Coil Data

Voltage: 5 to 48VDC.
Duty Cycle: Continuous.
Nominal Power: 200mW or 400mW.
Max. Coil Power: 130% of nominal.

Coil Data @ 20°C

200mW Coils (Only available with 1 Form A contact arrangements)				
Rated Coil Voltage (VDC)	**Nominal Current (mA)**	**Coil Resistance (ohms) ± 10%**	**Must Operate Voltage (VDC)**	**Must Release Voltage (VDC)**
5	40.0	125	3.75	0.25
6	30.0	180	4.50	0.30
9	22.5	400	6.75	0.45
12	16.7	720	9.00	0.60
24	8.6	2,800	18.00	1.20

400mW Coils				
Rated Coil Voltage (VDC)	**Nominal Current (mA)**	**Coil Resistance (ohms) ± 10%**	**Must Operate Voltage (VDC)**	**Must Release Voltage (VDC)**
5	80.0	62.5	3.75	0.25
6	66.7	90.0	4.50	0.30
9	44.4	202.5	6.75	0.45
12	33.3	360.0	9.00	0.60
18	22.2	810.0	13.50	0.90
24	11.1	1,440.0	18.00	1.20
48	5.6	5,760.0	36.00	2.40

Operate Data @ 20°C

Must Operate Voltage: 75% of nominal voltage or less.
Must Release Voltage: 5% of nominal voltage or more.
Operate Time: 10ms max.
Release Time: 5ms max.

Environmental Data

Temperature Range:
Operating: Models with Class F insulation: -30°C to +85°C.
Vibration, Mechanical: 10 to 55Hz., 1.5mm double amplitude.
Operational: 10 to 55Hz., 1.5mm double amplitude.
Shock, Mechanical: 1,000m/s^2 (100G approximately).
Operational: 100m/s^2 (10G approximately).
Operating Humidity: 20 to 85% RH. (Non-condensing).

Mechanical Data

Termination: Printed circuit terminals.
Weight: 0.25 oz (7g) approximately.

Ordering Information

Typical Part Number ▶	PCH	-1	12	D	2		H	,001

1. Basic Series:
PCH = Miniature 1 Form C relay

2. Termination:
1 = 1 pole

3. Coil Voltage:
05 = 5VDC 09 = 9VDC 24 = 24VDC
06 = 6VDC 12 = 12VDC 48 = 48VDC

4. Coil Input:
D = Standard 400mW L = Sensitive 200mW (Only available with 1 Form A contacts)

5. Contact Material:
2 = AgSnO

6. Contact Arrangement:
Blank = 1 Form C (Only available with Standard 400mW coil) M = 1 Form A

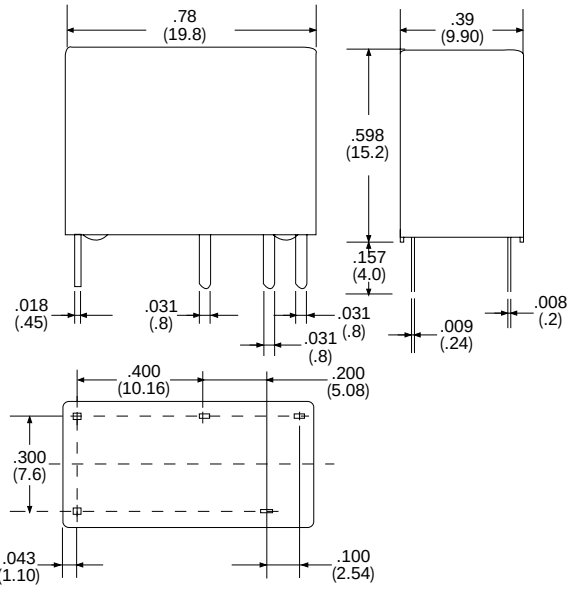
7. Enclosure:
Blank = Vented (Flux-tight) cover H = Sealed plastic case

8. Insulation class:
Blank = Class 155(F) system

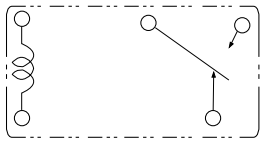
9. Option:
,001 = Standard model Other Suffix = Special options

Our authorized distributors are more likely to maintain the following items in stock for immediate delivery.
PCH-105D2H,001 PCH-124D2H,001
PCH-112D2H,001

Outline Dimensions

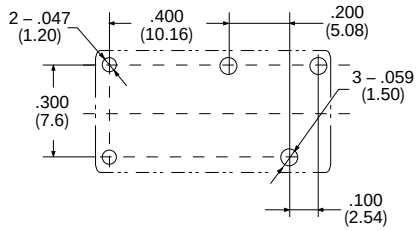


Wiring Diagram (Bottom View)



NOTE: Only necessary terminals are present on 1 Form A models.

PC Board Layout (Bottom View)

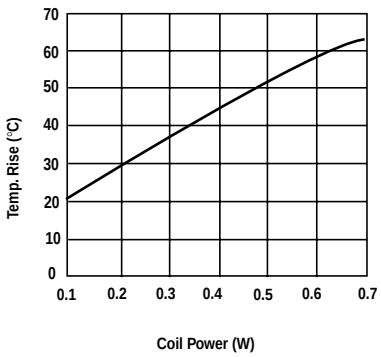


NOTE: Only necessary terminals are present on 1 Form A models.

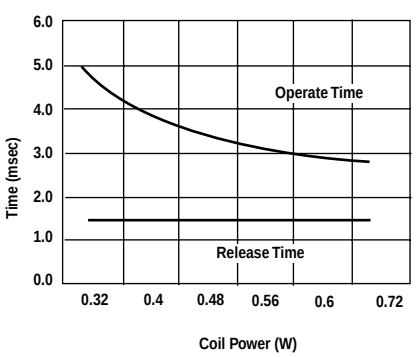
Reference Data (Typical Values)

(Only applicable for 1 Form C, 400mW coil model with 277VAC load on NO)

Coil Temperature Rise



Operate Time



Life Expectancy

