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# 188 series

## 30 Amp Power Relays

**File E38802**

**File LR54109**

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 confirm the product meets the requirements for a given application.

### Features

- AC coils 6-240VAC 50/60 Hz., DC 6-110VDC.
- Single pole, double throw, double break/double make contacts.
- .250" combination quick connect/solder terminals or PC terminals.
- Various mounting options include stud, core, bracket, flange, PC board.
- Open-style relay or with dust cover.

### Contact Data @ 25°C

**Arrangements:** 1 Form X (SPST-NO-DM), 1 Form Y (SPST-NC-DB and 1 Form Z (SPDT-NC/NO-DB/DM).

**Material:** Silver-cadmium oxide, .25" (6.5mm) dia.

**Expected Mechanical Life:** 10 million operations.

**Initial Contact Resistance:** 50 milliohms.

### Coil Data

	Nominal Voltage	DC Resistance in Ohms ± 10%	Must Operate Voltage
<b>DC Coils</b>	6	32	4.5
	12	120	9.0
	24	470	18.0
	48	1,800	36.0
	110	11,000	82.5
<b>AC Coils</b>	6	4.2	5.1
	12	18	10.2
	24	72	20.4
	120	1,700	102.0
	208	5,400	176.8
	240	7,200	204.0

### Contact Ratings

Contact Arrangement	UL Ratings	Expected Life
<b>1 Form X, 1 Form Y &amp; 1 Form Z</b>	30A 120/240/277VAC 15A 480/600VAC 1 HP @ 120VAC, 1 1/2 HP @ 240VAC 2 HP @ 208/277VAC* 30A @ 28VDC	100,000 ops.

\*2 HP rating at reduced electrical life, consult factory.

### Operate Data @ 25°C

**Must Operate Voltage:**

**DC Coils:** 75% of nominal.

**AC Coils:** 85% of nominal.

**Operate Time (Excluding Bounce):** 20 milliseconds, max, at nominal voltage, no coil suppression.

**Release Time (Excluding Bounce):** 10 milliseconds, max, at nominal voltage, no coil suppression.

### Initial Dielectric Strength

**Between Open Contacts:** >1,200V rms, 60 Hz.

**Between All Other Mutually Isolated Elements:** >2,500V rms, 60 Hz.

### Coil Data @ 25°C

**Voltage:** 6-110VDC and 6-240VAC.

**Nominal Power:**

**DC Coils:** 1.2 Watts.

**AC Coils:** 3.0VA.

**Duty Cycle:** Continuous at up to 25% overvoltage.

**Initial Insulation Resistance:** 1,000 megohms, min. @ 500VDC

**Insulation:** Class B, 130°C.

**Temperature Rise:**

**AC Coils:**

**Nominal Voltage:** 35°C for open models.  
45°C for enclosed models.

**25% Overvoltage:** 55°C for open models.  
65°C for enclosed models.

**DC Coils:**

**Nominal Voltage:** 35°C for open models.  
40°C for enclosed models.

**25% Overvoltage:** 50°C for open models.  
55°C for enclosed models.

### Environmental Data

**Temperature Range (50/60 Hz operation, based on 105°C limit):**

**Operating**

**AC Coils:** -45°C to +70°C for open models.  
-45°C to +60°C for enclosed models.

**DC Coils:** -45°C to +80°C for open models.  
-45°C to +70°C for enclosed models.

**Storage**

**All:** -65°C to +100°C.

**Shock:** 15g's, 11 ± 1 ms (non-operating, no mechanical damage).

**Vibration:** .1" double amplitude or 10 g's, 10-55 Hz. (operating, no contact chatter).

### Mechanical Data

**Termination:** .250" quick connect/solder; and PC board.

**Enclosure:** Open or polycarbonate dust cover.

**Weight:** 3 oz. (86g) approximately.

**Outline Dimensions**

Typical Part No. > **188- 3 4 T 2 00**

**1. Basic Series and Type:**

188 = Open or Enclosed 30 Amp Power Relay.

**2. Enclosure and Terminals:**

- 1 = Open, Solder/Quick Connect Terminals.
- 2 = Plain Enclosure with 6-32 Tapped Core, Solder/Quick Connect Terminals
- 3 = Flanged Enclosure, Solder/Quick Connect Terminals
- 4 = Plain Enclosure with Mounting Bracket and Stud on Closed End, Solder/Quick Connect Terminals
- 5 = Plain Enclosure with Bottom Mounted 6-32 Stud, Solder/Quick Connect Terminals
- 6 = Plain Enclosure with Bottom Mounted Bracket, Solder/Quick Connect Terminals
- 7 = Open, Printed Circuit Board Terminals
- 8 = Plain Enclosure, Printed Circuit Board Terminals
- 0 = Special

**3. Contact Arrangement:**

4 = 1 Form X (SPST-NO-DM)    5 = 1 Form Y (SPST-NC-DB)    6 = 1 Form Z (SPDT-NC-NO, DB-DM)    0 = Special

**4. Coil:**

A = 6VDC                      M = 208VAC                      S = Special  
 B = 12VDC                     N = 6VAC  
 C = 24VDC                     P = 12VAC  
 D = 48VDC                     Q = 24VAC  
 F = 110VDC                    T = 120VAC  
    U = 240VAC

**5. Contacts:**

2 = 1/4" (6.25mm) Diameter, Silver-Cadmium Oxide.                      0 = Special

**6. Standard or Special:**

00 = Standard                      F0 = Class "F" Coil                      A1-Z9 = Special Construction or Feature

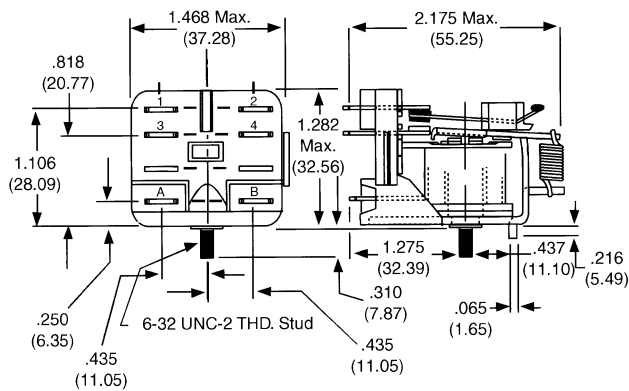
**NOTE: No sockets are available for this relay.**

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

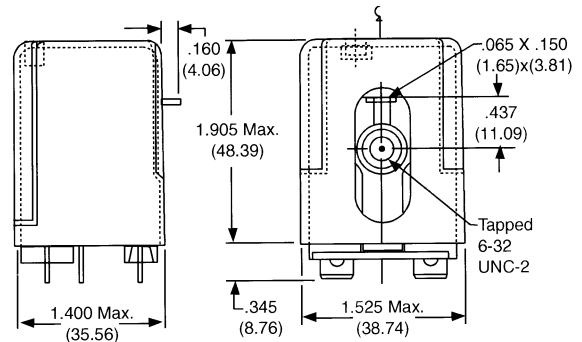
188-34B200    188-34T200    188-34C200    188-36Q200  
 188-34C200    188-34Q200    188-36B200    188-36T200

**Outline Dimensions**

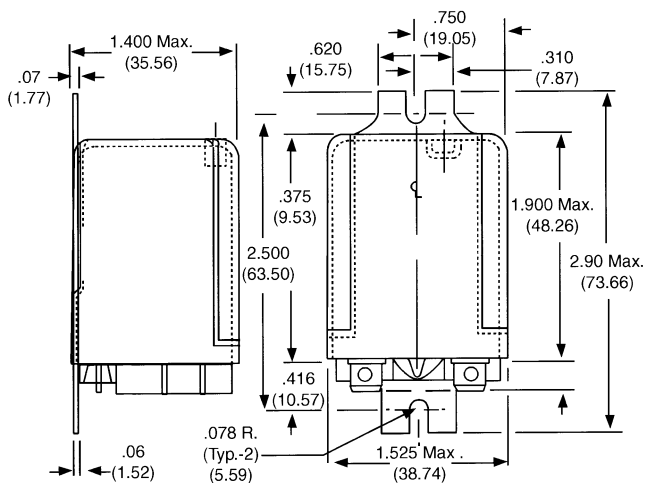
**Open 188-1**



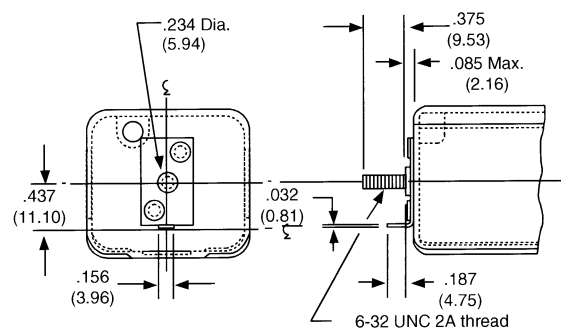
**Dust Cover 188-2**



**Dust Cover with Mounting Flange 188-3**

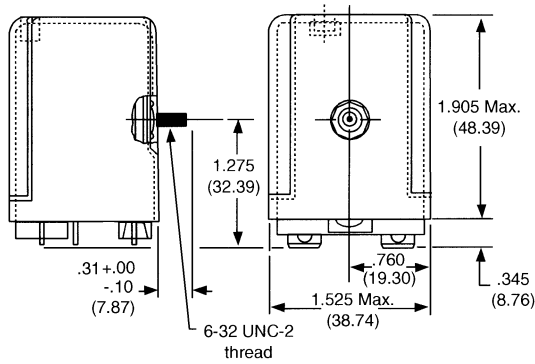


**Dust Cover with Bracket and Stud on End 188-4**

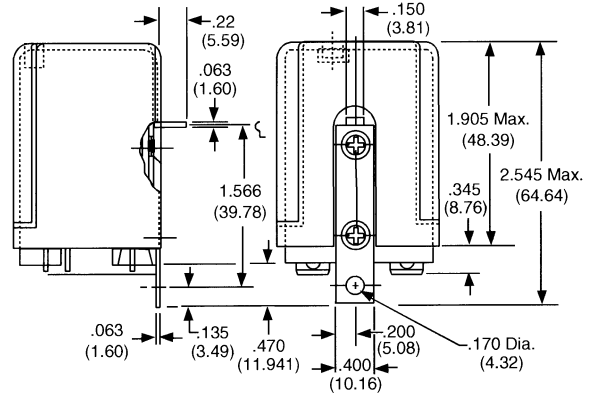


**Outline Dimensions (Continued)**

**Bottom Stud 188-5**

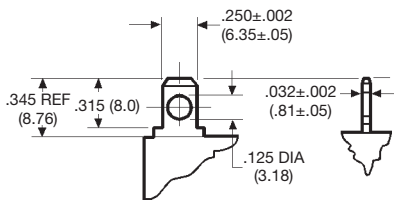


**Bracket Mount 188-6**

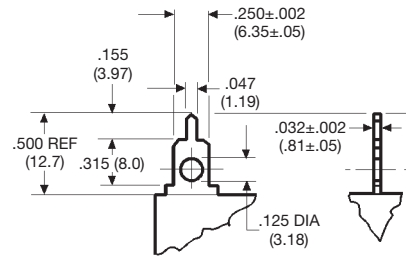


**Terminal Dimensions**

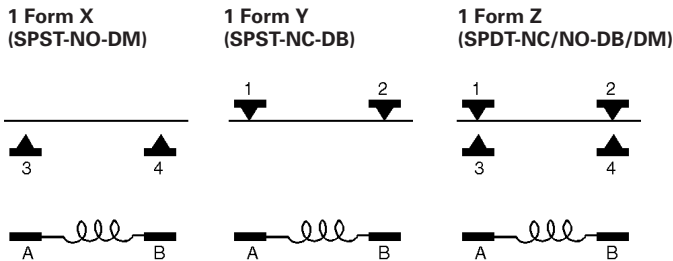
**.250" (6.35mm) Quick Connect**



**Printed Circuit**

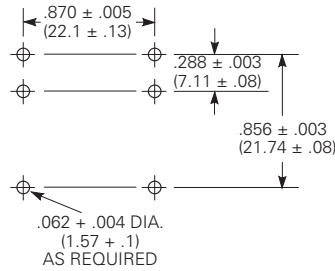


**Wiring Diagrams**



**PC Board Layout (Bottom View)**

**Suggested PCB layout for 188 series relays with PCB terminals**



**Reference Only**

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