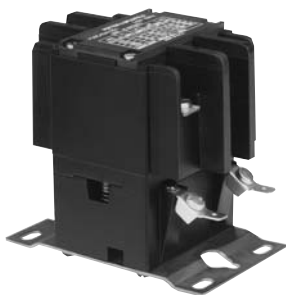




DC Coil



AC Coil

## P30/P40 series

### Definite Purpose Magnetic Contactor 30/40 Ampere Full Load 40/50 Ampere Resistive AC & DC Coils

File E22575

File LR15734

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

- AC and DC coils.
- Available with auxiliary switch.
- Variety of main contact terminals.
- For control of motors, power supplies, heating elements and lighting.

#### Contact Data @ 25°C

**Arrangements:** Up to 4 Form X (4PST-NO-DM)

**Ratings:** See contact rating table.

**Material:** Silver-cadmium oxide.

**Expected Life:** 200,000 operations at full load.

AC coil: 2 million operations, mechanical.

DC coil: 10 million operations, mechanical.

**Minimum Contact Data:** 3A @ 120VAC.

#### Main Contact Ratings

| Type | Motor Rating in Amps, 3Ø3P or 1Ø2P |              |       |        | Resistive Rating @ 600V | Tungsten Rating @277V |
|------|------------------------------------|--------------|-------|--------|-------------------------|-----------------------|
|      | Full Load @ 600V                   | Locked Rotor |       |        |                         |                       |
|      |                                    | @ 240V       | @480V | @ 600V |                         |                       |
| P30  | 30A                                | 180A         | 150A  | 120A   | 40A                     | 40A                   |
| P40  | 40A                                | 240A         | 200A  | 160A   | 50A                     | 50A                   |

P30 Electrical Discharge Lamp Control: 40A @ 240V (Delta), 40A @ 600V (Wye).

P40 Electrical Discharge Lamp Control: 50A @ 600V (Wye).

| Type | Motor Rating in Horsepower |        |        |            |
|------|----------------------------|--------|--------|------------|
|      |                            | @ 120V | @ 240V | @ 440-600V |
| P30  | 1Ø2P                       | 1.5HP  | 3HP    | —          |
|      | 3Ø3P                       | 3HP    | 7.5HP  | 7.5HP      |
| P40  | 1Ø2P                       | 2HP    | 5HP    | —          |
|      | 3Ø3P                       | 5HP    | 10HP   | 15HP       |

#### Auxiliary Snap-Action Switch

**Arrangements:** Up to 2 Form C (DPDT).

**Rating:** 10 amps at 120-250VAC @ 25°C.

**Material:** Silver.

#### Initial Dielectric Strength

**Initial Breakdown Voltage:** 2,200 rms minimum between all elements and between all elements to ground.

#### Coil Data @ 25°C

**Voltage:** From 12 to 120VDC, and 24 to 277VAC, 50/60 Hz.

**Power:** DC, 7.5 W; AC, 92VA, In rush; 12 VA Sealed.

**Duty Cycle:** Continuous.

**Insulation Class:** Class A, standard, Class B available.

**Initial Insulation Resistance:** 100 megohms, minimum.

#### Coil Data

| Nominal VDC | Resistance (Ohms $\pm$ 10% @ 25° C) | Must Operate* Volts | Maximum Operating Volts | Nominal Coil Current (ma) @ Nominal Voltage |
|-------------|-------------------------------------|---------------------|-------------------------|---------------------------------------------|
| 12          | 20.8                                | 9                   | 15                      | 577                                         |
| 24          | 84                                  | 18                  | 30                      | 286                                         |
| 48          | 334                                 | 36                  | 57                      | 144                                         |
| 120         | 2,110                               | 90                  | 144                     | 57                                          |

| AC Voltage Rating | Nominal 50/60 Hz. | Must Operate* 50/60 Hz. |
|-------------------|-------------------|-------------------------|
| 24                | 24                | 20.4                    |
| 120               | 110/120           | 94                      |
| 240               | 208/240           | 177                     |
| 277               | 277               | 236                     |

\*Applicable for vertical mounting, but not for upside-down mounting.

**Note:** Coil suppression is recommended for all DC coil units, particularly 120 and 240VDC coils.

#### Operate Data

**Must-Operate Voltage:** See coil data tables.

#### Environmental Data

**Temperature Range:** -55°C to +65°C.

#### Mechanical Data

**Mounting:** Universal mounting bracket. See outline drawings.

**Termination:**

**Contacts:** Binder screw, box lug, captive pressure plate, combination screw and dual .250" (6.35mm) quick connect, or combination box lug and dual .250" (6.35mm) quick connect. See Main Contact Terminal Options photo.

**Coil:** Combination 8-32 screw and .250" (6.35mm) quick connect.

**Aux. Switch:** .187" (4.75mm) quick connect.

**Weight: 3 Pole Models:** 25 oz. (709g) approximately.

**4 Pole Models:** 28 oz. (794g) approximately.

## Ordering Information

| Typical Part No. ►                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | P30                                             | P | 42 | A | 1 | 4 | P | 1 | -240 |                            |                            |                                                         |                                                 |                         |                         |                            |                            |                         |                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|---|----|---|---|---|---|---|------|----------------------------|----------------------------|---------------------------------------------------------|-------------------------------------------------|-------------------------|-------------------------|----------------------------|----------------------------|-------------------------|-------------------------------------------|
| <b>1. Type:</b><br>P30 = Definite Purpose Contactor, 30 amp.<br>P40 = Definite Purpose Contactor, 40 amp.                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                 |   |    |   |   |   |   |   |      |                            |                            |                                                         |                                                 |                         |                         |                            |                            |                         |                                           |
| <b>2. Auxiliary Switch:</b><br>P = No Aux. Switch<br>C = 1 Form C (SPDT)      F = 2 Form C (DPDT)                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                 |   |    |   |   |   |   |   |      |                            |                            |                                                         |                                                 |                         |                         |                            |                            |                         |                                           |
| <b>3. Main Contact Arrangement:</b><br><table border="0"> <tr> <td>42 = 3 Form X (3PST-NO-DM)</td> <td>47 = 4 Form X (4PST-NO-DM)</td> </tr> <tr> <td>43 = 2 Form X (DPST-NO-DM)</td> <td>48 = 2 Form X (DPST-NO-DM)</td> </tr> <tr> <td>    &amp; 1 Form Y (SPST-NC-DB)</td> <td>    &amp; 2 Form Y (DPST-NC-DB)</td> </tr> <tr> <td>45 = 1 Form X (SPST-NO-DB)</td> <td>49 = 4 Form Y (4PST-NC-DB)</td> </tr> <tr> <td>    &amp; 2 Form Y (DPST-NC-DB)</td> <td>Other contact arrangements are available.</td> </tr> </table> |                                                 |   |    |   |   |   |   |   |      | 42 = 3 Form X (3PST-NO-DM) | 47 = 4 Form X (4PST-NO-DM) | 43 = 2 Form X (DPST-NO-DM)                              | 48 = 2 Form X (DPST-NO-DM)                      | & 1 Form Y (SPST-NC-DB) | & 2 Form Y (DPST-NC-DB) | 45 = 1 Form X (SPST-NO-DB) | 49 = 4 Form Y (4PST-NC-DB) | & 2 Form Y (DPST-NC-DB) | Other contact arrangements are available. |
| 42 = 3 Form X (3PST-NO-DM)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 47 = 4 Form X (4PST-NO-DM)                      |   |    |   |   |   |   |   |      |                            |                            |                                                         |                                                 |                         |                         |                            |                            |                         |                                           |
| 43 = 2 Form X (DPST-NO-DM)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 48 = 2 Form X (DPST-NO-DM)                      |   |    |   |   |   |   |   |      |                            |                            |                                                         |                                                 |                         |                         |                            |                            |                         |                                           |
| & 1 Form Y (SPST-NC-DB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | & 2 Form Y (DPST-NC-DB)                         |   |    |   |   |   |   |   |      |                            |                            |                                                         |                                                 |                         |                         |                            |                            |                         |                                           |
| 45 = 1 Form X (SPST-NO-DB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 49 = 4 Form Y (4PST-NC-DB)                      |   |    |   |   |   |   |   |      |                            |                            |                                                         |                                                 |                         |                         |                            |                            |                         |                                           |
| & 2 Form Y (DPST-NC-DB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Other contact arrangements are available.       |   |    |   |   |   |   |   |      |                            |                            |                                                         |                                                 |                         |                         |                            |                            |                         |                                           |
| <b>4. Coil Control Input:</b><br>A = Alternating Current, 50/60 Hz.      D = Direct Current                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                 |   |    |   |   |   |   |   |      |                            |                            |                                                         |                                                 |                         |                         |                            |                            |                         |                                           |
| <b>5. Mounting and Installed Accessories:</b><br>1 = Standard Mounting                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                 |   |    |   |   |   |   |   |      |                            |                            |                                                         |                                                 |                         |                         |                            |                            |                         |                                           |
| <b>6. Main Contact Terminals:</b><br><table border="0"> <tr> <td>2 = Screw Terminals</td> <td>5 = Captive Pressure Plate</td> </tr> <tr> <td>3 = Screw Terminals &amp; Dual .250" (6.35mm) Quick Connect</td> <td>6 = Box Lug &amp; Dual .250" (6.35mm) Quick Connect</td> </tr> <tr> <td>4 = Box Lug</td> <td></td> </tr> </table>                                                                                                                                                                                             |                                                 |   |    |   |   |   |   |   |      | 2 = Screw Terminals        | 5 = Captive Pressure Plate | 3 = Screw Terminals & Dual .250" (6.35mm) Quick Connect | 6 = Box Lug & Dual .250" (6.35mm) Quick Connect | 4 = Box Lug             |                         |                            |                            |                         |                                           |
| 2 = Screw Terminals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5 = Captive Pressure Plate                      |   |    |   |   |   |   |   |      |                            |                            |                                                         |                                                 |                         |                         |                            |                            |                         |                                           |
| 3 = Screw Terminals & Dual .250" (6.35mm) Quick Connect                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 6 = Box Lug & Dual .250" (6.35mm) Quick Connect |   |    |   |   |   |   |   |      |                            |                            |                                                         |                                                 |                         |                         |                            |                            |                         |                                           |
| 4 = Box Lug                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                 |   |    |   |   |   |   |   |      |                            |                            |                                                         |                                                 |                         |                         |                            |                            |                         |                                           |
| <b>7. Auxiliary Contact Terminals:</b><br>P = No Auxiliary Switch<br>C = .187" (4.75mm) Quick Connect                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                 |   |    |   |   |   |   |   |      |                            |                            |                                                         |                                                 |                         |                         |                            |                            |                         |                                           |
| <b>8. Coil Terminals:</b><br>1 = Combination 8-32* Screw Terminal and .250" (6.35mm) Quick Connect                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                 |   |    |   |   |   |   |   |      |                            |                            |                                                         |                                                 |                         |                         |                            |                            |                         |                                           |
| <b>9. Coil Voltage:</b><br>24, 120, 240 or 277VAC<br>12, 24 or 120VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                 |   |    |   |   |   |   |   |      |                            |                            |                                                         |                                                 |                         |                         |                            |                            |                         |                                           |

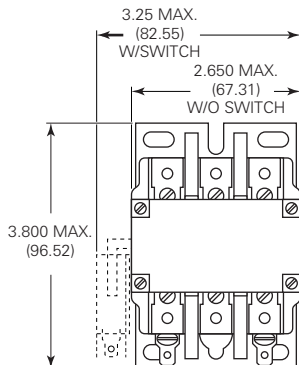
**Our authorized distributors are more likely to maintain the following items in stock for immediate delivery.**

|                 |                 |
|-----------------|-----------------|
| P30P42A12P1-120 | P40P42A12P1-24  |
| P30P42D12P1-24  | P40P42A12P1-120 |
| P30P47A12P1-120 | P40P42A12P1-240 |
| P30P47D12P1-24  | P40P42D12P1-24  |

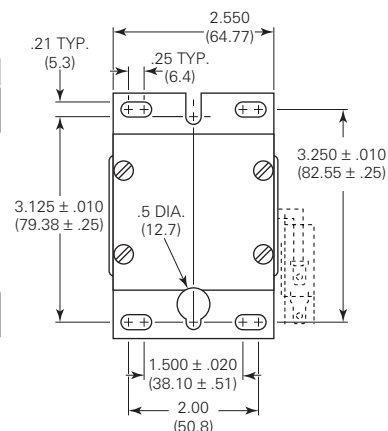
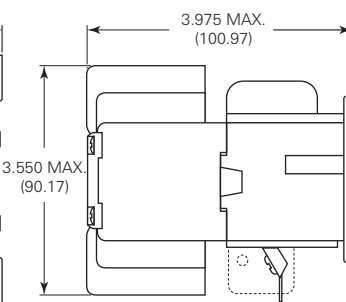
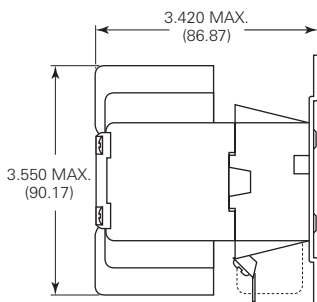
## Outline Dimensions

### 3 Pole Models

#### AC Coil

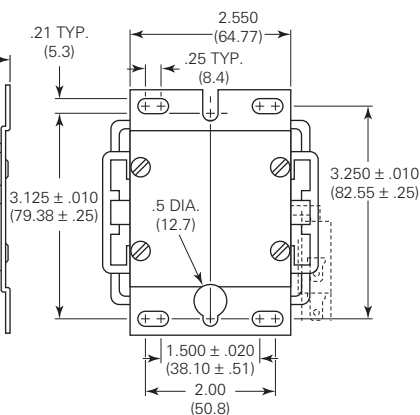
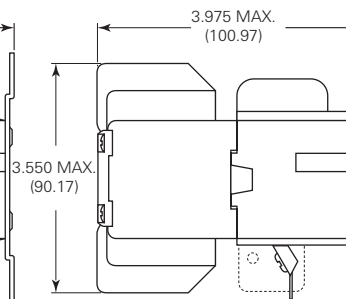
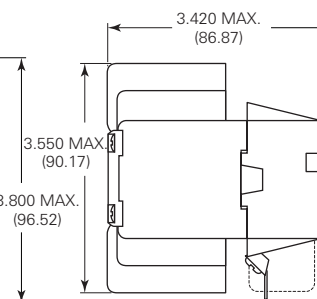
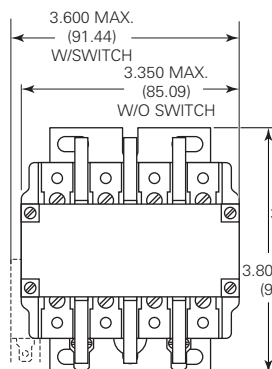


#### DC Coil



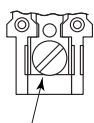
### 4 Pole Models

#### AC Coil



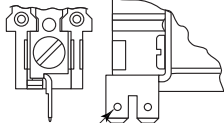
## Contact Terminal Options

#### Code 2



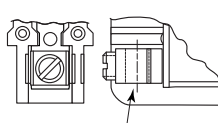
#10-32 UNF-2A X .375" (9.525mm)  
Binder Terminal Screw 15S365  
accepts the following  
wire size: Solid, Single — 8 AWG

#### Code 3



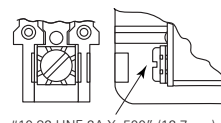
Dual .250" (6.35mm)  
Quick Connect 26A945  
#10-32 UNF-2A X .375" (9.525mm)  
Binder Terminal Screw 15S365  
accepts the following  
wire size: Solid, Single — 8 AWG

#### Code 4



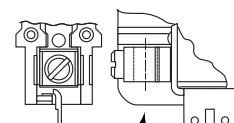
Box Lug (Keyed) 24C540 with  
15S361 & 15S364 Screws  
Accepts the following wire sizes:  
Solid, Single — 14-4 AWG

#### Code 5



#10-32 UNF-2A X .500" (12.7mm)  
Screw with Captive  
Pressure Plate 15S362  
Accepts the following wire sizes:  
Solid, Single — 22-8 AWG  
Solid, Double — 22-14 AWG  
Stranded, Single — 22-8 AWG  
Stranded, Double — 22-16 AWG

#### Code 6



Dual .250" (6.35mm)  
Quick Connect 26A945  
Box Lug 9P30X3  
Accepts the following wire sizes:  
Solid, Single — 14-4 AWG

## Main Contact Ordering and Replacement Information

### Contact Replacement Kits

Contact replacement kits for 3 pole models include 3 contact pressure springs, 3 movable contact assemblies and 6 stationary contact assemblies. Kits for 4 pole models include 4 contact pressure springs, 4 movable contact assemblies and 8 stationary contact assemblies. Contact replacement kits are for use only on those models with form X contact arrangements.

#### Kits for P30 contactors:

- 3 Form X models - Kit No. 9P30X1
- 4 Form X models - Kit No. 9P30X2

#### Kits for P40 contactors:

- 3 Form X models - Kit No. 9P40X1
- 4 Form X models - Kit No. 9P40X2

### To Replace Contacts:

1. Remove screws holding dust cover in place, and remove cover.
  2. Compress and remove contact pressure springs.
  3. Lift movable contacts and remove.
  4. Remove screws holding stationary contact in place, and remove contacts.
  5. Reverse the above procedure to install new stationary and movable contacts.
- Caution:** Do not overtighten the screws, as it is possible to strip the threads.