



American
Electronic
Components, Inc.

*Achieving
Excellence through
Commitment to Quality*



DURAKOOL

Relays & Contactors

Electrical Controls for over 60 Years

Introduction

For more than 60 years, Durakool has specialized in the production of mercury displacement relays and contactors. We helped create mercury switching technology. That experience in developing uses for the inherent qualities of mercury has resulted in components unmatched in quiet and dependable operation.

Durakool products provide silent, reliable switching because of the unique properties of mercury as a contact material. They are virtually immune to breakage, corrosion, or wear. The contacts, enclosed in hermetically sealed steel containers, operate in a wide range of temperatures, under low or high pressures, in dust or vapor filled atmospheres. They produce no external sparks and are unaffected by line noise or voltage spikes.

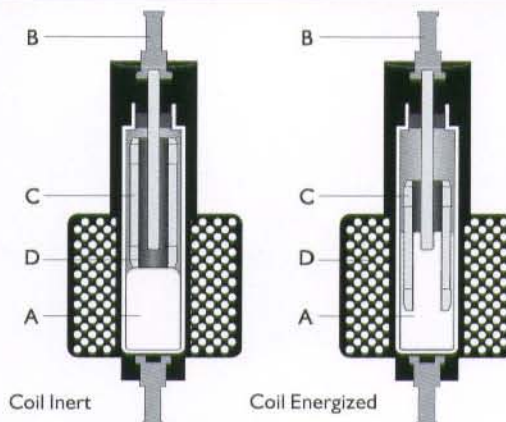
Application

Because of their long life, reliability, and unique construction, Durakool relays should be a first choice for applications where continued frequent switching would degrade mechanical devices. They are also the choice if unusual environmental conditions or unpredictable transients are expected, or if replacement would be difficult or costly.

Typical applications include:

- ◆ Resistive heating control
- ◆ Plastic working equipment
- ◆ Industrial processing equipment
- ◆ Oven/furnace controls
- ◆ Food processing equipment
- ◆ Lighting & traffic controls
- ◆ Test/laboratory equipment
- ◆ High-voltage applications
- ◆ Capacitor discharge
- ◆ Motors & pumps

Construction



The basic design of a Durakool relay is simplicity itself. A volume of mercury (A) is inside a stainless steel container, the wall of which is one pole of a circuit. An electrode (B), extends into the container through a hermetic seal which also electrically insulates the electrode from the container. A ceramic plunger (C) is attracted by the coil (D), displacing the mercury to close the circuit.

Selection

Durakool relays and contactors are available with the following options:

- 1) **General Purpose** (UL defined) 10-150 Amps, for inductive, resistive, tungsten, and motor loads.
- 2) **Special Purpose** 30, 35, 50, and 60 Amps, for resistive or motor loads.
- 3) **Time Delay** 6-20 Amps, 0.5-10 second delay.
- 4) **High Voltage** 10 Amps, 2500 to 3500 VAC.


Relay/Contactor Selection Guide


| ELECTRICAL RATINGS | Alternating Current | | | | | | MOTOR LOAD | | | | | | Tungsten Lamp | Direct Current | | | Page # | |
|------------------------------------|---|-----|-----|-----|-----|-----|------------|------|-----|---------|------|------|---------------|----------------|------|------|--------|-----|
| | Volts | | | | | | 1 Phase | | | 3 Phase | | | | 120** | 1-48 | 120 | | 240 |
| SERIES | Amps | | | | | | Hp | Hp | Hp | Hp | Hp | Hp | Amps KW | DC Amps | | | | |
| GENERAL PURPOSE | | | | | | | | | | | | | | | | | | |
| AFM* 10 (Normally Open) | 10 | 10 | 10 | 10 | 10 | 10 | 0.25 | 0.25 | — | — | 0.75 | — | 10 | 1.2 | 10 | 5.0 | 3.0 | 6 |
| AFM* 15 (Normally Open) | 15 | 15 | 15 | 15 | 15 | 15 | 0.33 | 0.33 | — | — | 1.0 | — | 10 | 1.2 | 15 | 7.5 | 5.0 | 6 |
| AFM* 20 (Normally Open) | 20 | 20 | 20 | 20 | 20 | 20 | 0.50 | 0.50 | — | — | 1.5 | — | 10 | 1.2 | 20 | 10.0 | 8.0 | 6 |
| BF 30 (Normally Open) | 30 | 30 | 30 | 30 | 30 | 30 | 2.0 | 3.0 | — | — | 5.0 | — | 30 | 3.6 | 30 | 25 | 15 | 8 |
| BB 30 (Normally Closed) | 30 | 22 | 20 | 18 | 10 | 8 | 1.5 | 2.0 | — | — | 3.0 | — | 20 | 2.4 | 30 | 20 | 10 | 8 |
| BFL 35 (Normally Open) | 35 | 35 | 35 | 35 | 35 | 15 | 2.0 | 3.0 | — | — | 5.0 | — | 30 | 3.6 | 35 | 25 | 15 | 10 |
| BBL 35 (Normally Closed) | 30 | 22 | 20 | 18 | 10 | 8 | 1.5 | 2.0 | — | — | 3.0 | — | 20 | 2.4 | 30 | 20 | 10 | 10 |
| BFC 60 (Normally Open) | 60 | 60 | 60 | 60 | 60 | 60 | 3.0 | 5.0 | 7.5 | 5.0 | 10.0 | 15 | 60 | 7.2 | 60 | 30 | 20 | 12 |
| BBC 60 (Normally Closed) | 60 | 45 | 45 | 45 | 35 | 25 | 3.0 | 5.0 | — | 5.0 | 7.5 | — | 55 | 6.6 | 60 | 30 | 20 | 12 |
| CF 80 (Normally Open) | 80 | 80 | 80 | 80 | 80 | 80 | 5.0 | 7.5 | — | — | 15.0 | — | 80 | 9.6 | 80 | 35 | 25 | 14 |
| CB 80 (Normally Closed) | 80 | 80 | 80 | 60 | 60 | 40 | 5.0 | 7.5 | — | — | 15.0 | — | 75 | 9.0 | 80 | 35 | 25 | 14 |
| CFC 100 (Normally Open) | 100 | 100 | 100 | 100 | 100 | 60 | 7.5 | 10.0 | — | — | 20.0 | — | 100 | 12.0 | 100 | 50 | 30 | 16 |
| CBC 100 (Normally Closed) | 100 | 90 | 90 | 60 | 60 | 70 | 7.5 | 10.0 | — | — | 20.0 | — | 90 | 10.8 | 100 | 50 | 30 | 16 |
| DFC* 150 (Normally Open) | 140 | 140 | 135 | 130 | 120 | 120 | — | — | — | — | — | — | 120 | 14.4 | 150 | 70 | 50 | 18 |
| RESISTIVE & MOTOR LOADS | | | | | | | | | | | | | | | | | | |
| GL 35A (Normally Open) | 35 | 35 | 35 | 35 | 35 | 35 | — | — | — | — | — | — | 35 | 4.2 | 35 | 17 | 10 | 20 |
| GLM35A (Normally Open) | 35 | 35 | 35 | 35 | 35 | 35 | 2.0 | 5.0 | 7.5 | 3.0 | 7.5 | 10.0 | 35 | 4.2 | 35 | 17 | 10 | 20 |
| GL 50A (Normally Open) | 50 | 50 | 50 | 50 | 50 | 50 | — | — | — | — | — | — | 50 | 6.0 | 50 | 25 | 15 | 20 |
| 2030/3030 (Normally Open) | 30 | 30 | 30 | 30 | 30 | 30 | — | — | — | — | — | — | 25 | — | 30 | — | — | 22 |
| 2M30/3M30 (Normally Open) | 30 | 30 | 30 | 30 | 30 | 30 | — | — | — | 1.5 | 3.0 | 3.0 | 25 | — | 30 | — | — | 23 |
| 60APS (Normally Open) | 60 | 60 | 60 | 60 | 60 | 60 | 3.0 | 5.0 | 7.5 | 5.0 | 10.0 | 15.0 | 60 | — | 60 | 30 | — | 24 |
| HIGH VOLTAGE CONTACTORS | (2500, 3500 Volts AC) See page 26 for electrical ratings and model numbers. | | | | | | | | | | | | | | | 26 | | |

* UL Recognized

** Many units have higher ratings.




General Durakool file #'s:

 E35126 & E61703

 LR-22416



The shaded areas in the above selection table indicate relays and contactor applications that are approved for UL or CSA listings. Listings are for all models within a series unless otherwise noted. General Durakool file numbers are listed. Consult your Durakool representative for additional information.

-  Listed with both UL and CSA
-  Listed with UL
-  Listed with CSA

General Performance Specifications

TYPICAL CONTACT LIFE AND PERMISSIBLE CYCLE RATES

Resistive loads (Power Factor = 1.0) at 21°C (70°F)

TABLE 1 Series BB, BBL Mercury/Mercury Contacts

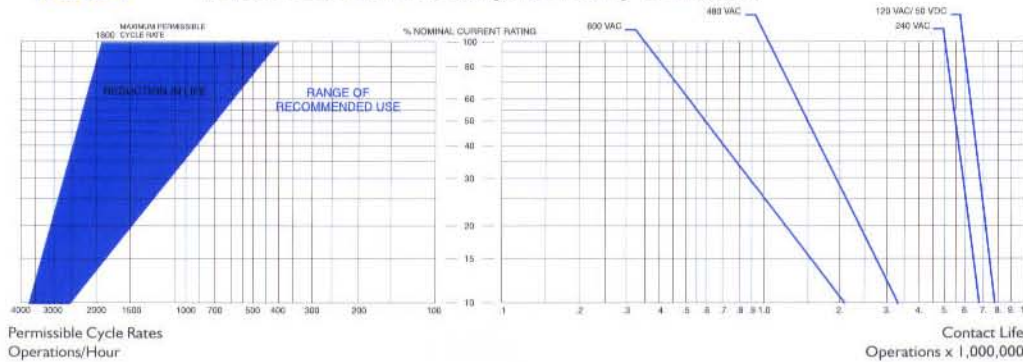


TABLE 2 Series BFC/BBC, CF/CB, CFC/CBC, DFC, 2030/3030, 2M30/3M30, 60APS Mercury/Metal Contacts

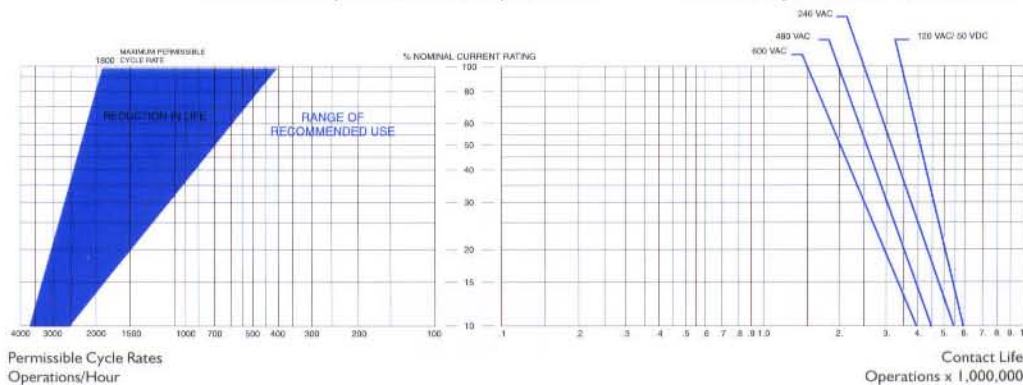
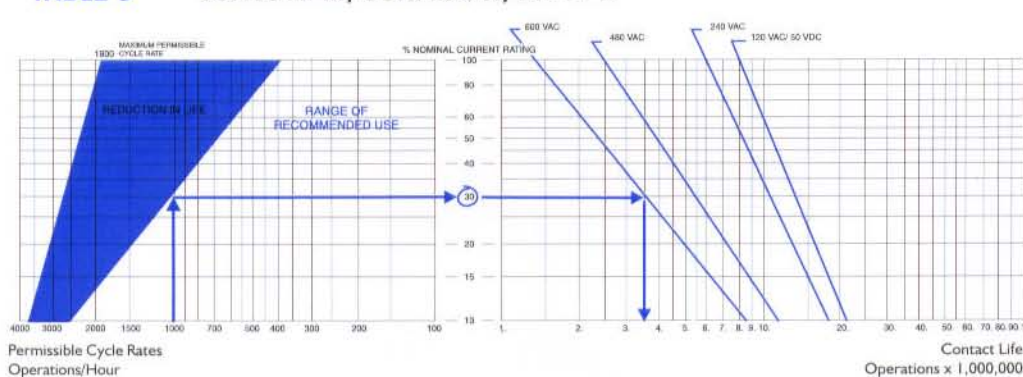


TABLE 3 Series AFM, Gold Label, BF/BFL



Notes:

PERMISSIBLE CYCLE RATES:

For 10-90% duty cycle only. For rates > 1500 cycles/hr., life will be shortened.

CONTACT RATES:

Table 2: No-Load Life = 10 megacycles
Table 3: No-Load Life = 25 megacycles

AMBIENT TEMPERATURES:

Operating ambient temperature range: -35°C to +55°C.

-AFM

GENERAL PURPOSE: If Power Factor = 0.75, then derate life 10%.
INDUCTIVE: If Power Factor = 0.40 and inrush 150% of rated current, derate life 50% (not for jogging loads).
Higher cycle rates approach resistive load values.
FLUORESCENT: 50% of life.

-GOLD LABEL

GENERAL PURPOSE: If Power Factor = 0.75, then derate life 10%.
TUNGSTEN: 12,000 cycles life min., 120 VAC (cold lamps only).
Higher cycle rates approach resistive load values.

LIFE CYCLE RATE Example

Refer to Table 3 which shows characteristics for "A" size relays and Gold Label contactors, and follow the blue arrows.

1. For our example load, we have chosen a 12-Amp resistive (600 VAC), with a maximum switching rate of 1000/hour.

2. At this load, the lower left of the table shows us that 1,000 operations per hour allows up to a maximum of 30% of nominal current rating without life reduction.

3. Following 30% across the table to the right, we find that 30% of nominal rating intersects the 600 VAC load line at 3.5 million operations per life.

4. If this contact life is within acceptable parameters, you could calculate that 12 Amps is 30% of a 40-Amp rating (12 divided by 0.30).

5. Applying this information to the table on page 3, we find the 50-Amp Gold Label contactor to be the best selection for our example load.

DURAKOOL Worldwide Distributors

NORTH AMERICA

Northwest

Washington
Temco-Azteck
(425) 481-6150

Oregon
Temco-Azteck
(503) 626-6643

West Coast

California
Don Pass & Assoc.
(925) 443-9040

Campbell-George Co.
(650) 654-5000

C&W - Acort Sales
(818) 700-2991

Western States

Arizona
H-D Associates
(480) 784-2944

Texas

Dawson and Associates
(281) 272-1717

Heat Source
(281) 272-1190

Utah
Heatcon, Inc.
(206) 575-0815

Central-Midwest

Illinois
Power Components
(800) 221-9257

Indiana
Power Components
(800) 221-9257

Michigan
North Coast Components
(616) 379-4100

Minnesota
Volco Electric
(925) 933-4671

Missouri
Richard Green
(314) 423-8989

Ohio

Orr & Assoc.
(800) 837-2700

Wisconsin
Power Components
(800) 221-9257

East Coast

New York
International Sensors &
Controls
(203) 270-9391

New Jersey
Riverside Components
(800) 642-7107

Southeast

Beacon Industrial Group
(800) 642-7107

Canada

Davis Controls
(905) 829-2000

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Ext. 501 & 503**

Fax 574 293-8013

**Outside of US &
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**574 264-6099
Ext. 501 & 503**

Fax 574 293-8013

ASIA

Japan
Sankyo International
81-35-821-2511

Taiwan
JinZon Enterprises
886-02-271-11093

EUROPE

Germany
Endrich Bauelemente Vertriebs
49-745-260-070

Italy
Fancos SPA
39-02-95898034

Sweden
Acte Sweden AB
46-84-452-800

United Kingdom
Willow Technologies
44-1342-835234

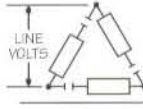
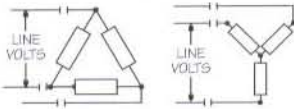
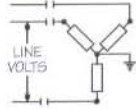
DOWN UNDER

Australia
Universal Components
29-638-5388

New Zealand
Soanar Technologies
64-9-262-2461

General Performance Specifications

**TABLE 4 KW RATINGS
For 3-Phase Balanced Heater Loads Based on UL Amps**

| 3-Phase Contactor in Circuit | |  $KW = 3 I_L V^*$ |  $KW = \frac{3 I_L V^*}{\sqrt{3}}$ |  $KW = \frac{3 I_L V^*}{\sqrt{3}}$ | | | |
|------------------------------|------------|---|---|--|----------------------|---------------|----------------------|
| Relay Series | Line Volts | Amps Per Pole | Total KW Heater Load | Amps Per Pole | Total KW Heater Load | Amps Per Pole | Total KW Heater Load |
| BF3 | 208 | 30 | 18.7 | 30 | 10.8 | 30 | 10.8 |
| | 240 | 30 | 21.6 | 30 | 12.4 | 30 | 12.4 |
| | 480 | 30 | 43.2 | 30 | 24.9 | 30 | 24.9 |
| BFL3 | 208 | 35 | 21.4 | 35 | 12.3 | 35 | 12.3 |
| | 240 | 35 | 25.2 | 35 | 14.5 | 35 | 14.5 |
| | 480 | 35 | 50.4 | 35 | 29.0 | 35 | 29.0 |
| BFC3 | 208 | 60 | 36.7 | 60 | 21.5 | 60 | 21.5 |
| | 240 | 60 | 43.2 | 60 | 24.9 | 60 | 24.9 |
| | 480 | 60 | 86.4 | 60 | 49.8 | 60 | 49.8 |
| CFC3 | 208 | 100 | 62.4 | 100 | 36.0 | 100 | 36.0 |
| | 240 | 100 | 72.0 | 100 | 41.6 | 100 | 41.6 |
| | 480 | 100 | 144.0 | 100 | 83.2 | 100 | 83.2 |

* I_L = Line Current, V = Voltage

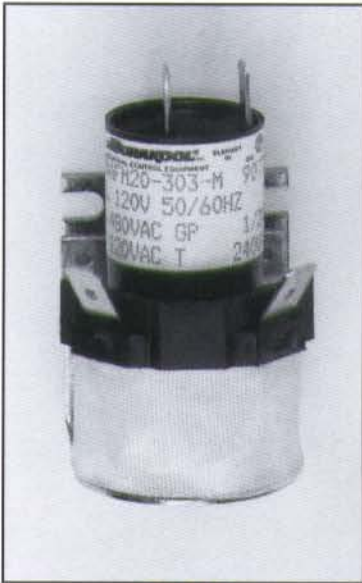
LEADWIRE PROTECTION

The wire gage must be sufficient to carry the load current. Wire insulation must be rated at a minimum of 60°C above operating ambient temperature required. Other conditions can be accommodated—contact the factory.

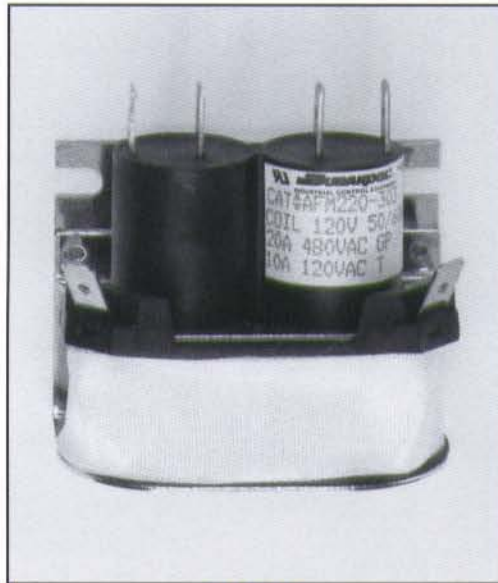
DURAKOOL SPECIFICATIONS

| | |
|---|----------------|
| Pull-in Voltage, % of Nominal | 85 |
| Typical Contact Resistance, Milliohms | 4 |
| Contact Bounce, Make | None |
| Insulation Material | Class B, 130°C |
| Storage Temperature | -40° to +100°C |
| Breakdown Voltage, VRMS, Min.: | |
| Contact to Ground | 5000 |
| Coil to Frame | 1250 |
| Mounting Vertical | ± 10° |
| Operating Ambient Temperature Range | -35°C to +55°C |

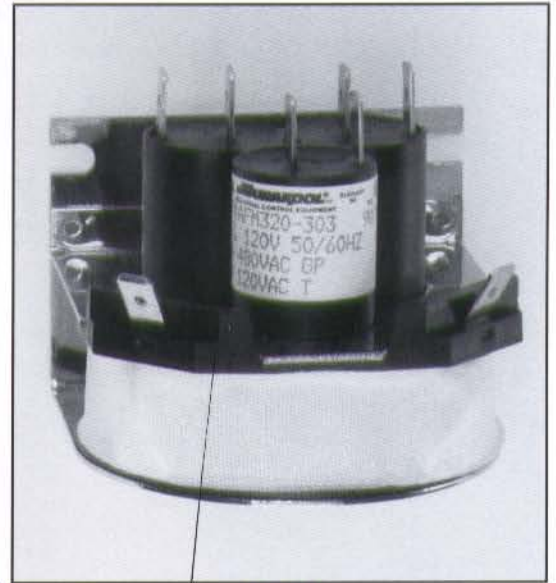
DURAKOOL Series AFM 10, 15 & 20 Amps



1 POLE
 Weight .50 lbs.

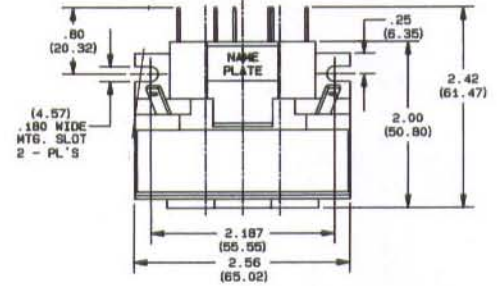
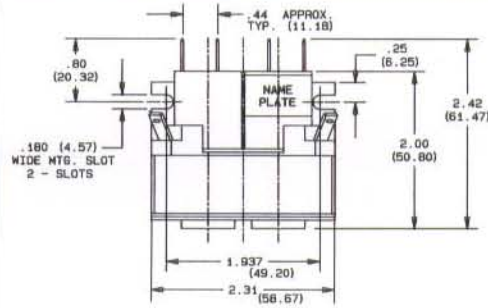
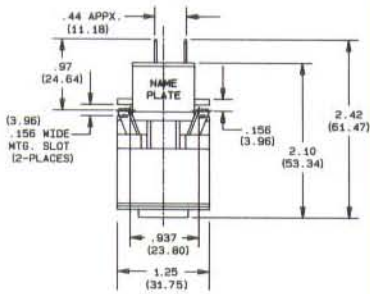


2 POLE
 Weight 1.0 lbs.

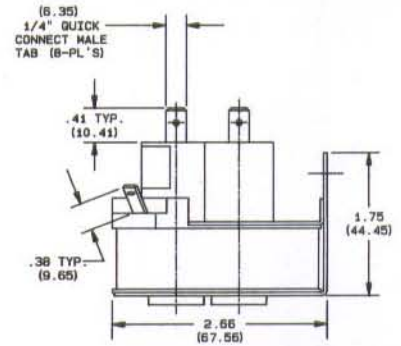
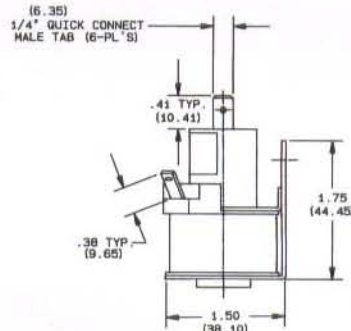
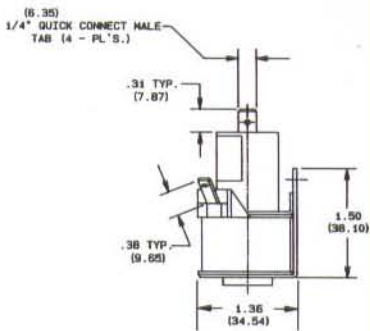


3 POLE
 Weight 1.2 lbs.

FRONT VIEW



SIDE VIEW



DURAKOOL Series AFM 10, 15 & 20 Amps

AFM "A" size relays offer mercury-contact technology in a cost-effective, compact package in 10, 15, and 20 Amp models. Coil and load connectors are a quick-connect design, mounting brackets simplify installation, and molded construction provides extra durability.

Popular uses of this product include lighting controls, energy management systems, light inductive, and motor loads. The standard part numbers listed below provide a variety of control voltages and load types, and come with normally open contacts.

SPECIFICATIONS

(see pages 3-5 for other specifications)

Maximum Time: Operate 90 ms Release 150 ms

Contact Bounce, Release: None

Recommended

DC Load Polarity: Center Tube Connector Negative



Load Connectors: 1/4" Male Quick Connect

Coil Terminals: 1/4" Male Quick Connect

Breakdown Voltage: 2000 VRMS/Min. Across Contacts

| TYPE/SERIES | | AFM 10 10 Amps | AFM 15 15 Amps | AFM 20 20 Amps | Typical Coil Data | | | |
|-------------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|-------|-------|-------|
| DESCRIPTION | Volts | Part Number | Part Number | Part Number | DC Ohms | Watts | Amps | |
| 1 Pole Normally Open | 24 | AFM10-301-M | AFM15-301-M | AFM20-301-M | 126 | 2.08 | 0.119 | |
| | 120 | AFM10-303-M | AFM15-303-M | AFM20-303-M | 3510 | 1.70 | 0.021 | |
| | 208 | AFM10-304-M | AFM15-304-M | AFM20-304-M | 10600 | 1.75 | 0.021 | |
| | 240 | AFM10-305-M | AFM15-305-M | AFM20-305-M | 14040 | 1.87 | 0.011 | |
| | 277 | AFM10-306-M | AFM15-306-M | AFM20-306-M | 16820 | 1.90 | 0.009 | |
| | 480 | AFM10-307-M | AFM15-307-M | AFM20-307-M | 56160 | 2.30 | 0.006 | |
| | 12 _(DC) | AFM10-309-M | AFM15-309-M | AFM20-309-M | 62 | 2.30 | 0.192 | |
| | 24 _(DC) | AFM10-310-M | AFM15-310-M | AFM20-310-M | 247 | 2.30 | 0.097 | |
| | 2 Pole Normally Open | 24 | AFM210-301 | AFM215-301 | AFM220-301 | 52 | 2.84 | 0.216 |
| | | 120 | AFM210-303 | AFM215-303 | AFM220-303 | 1196 | 3.60 | 0.051 |
| 208 | | AFM210-304 | AFM215-304 | AFM220-304 | 3400 | 3.20 | 0.027 | |
| 240 | | AFM210-305 | AFM215-305 | AFM220-305 | 5385 | 2.90 | 0.020 | |
| 277 | | AFM210-306 | AFM215-306 | AFM220-306 | 7520 | 3.10 | 0.018 | |
| 480 | | AFM210-307 | AFM215-307 | AFM220-307 | 21100 | 2.90 | 0.011 | |
| 12 _(DC) | | AFM210-309 | AFM215-309 | AFM220-309 | 33.2 | 4.32 | 0.360 | |
| 24 _(DC) | | AFM210-310 | AFM215-310 | AFM220-310 | 144 | 3.84 | 0.160 | |
| 3 Pole Normally Open | | 24 | AFM310-301 | AFM315-301 | AFM320-301 | 17 | 6.70 | 0.554 |
| | | 120 | AFM310-303 | AFM315-303 | AFM320-303 | 470 | 7.26 | 0.112 |
| | 208 | AFM310-304 | AFM315-304 | AFM320-304 | 1690 | 6.47 | 0.055 | |
| | 240 | AFM310-305 | AFM315-305 | AFM320-305 | 1950 | 5.60 | 0.046 | |
| | 277 | AFM310-306 | AFM315-306 | AFM320-306 | 2130 | 5.90 | 0.043 | |
| | 480 | AFM310-307 | AFM315-307 | AFM320-307 | 7800 | 6.47 | 0.024 | |
| | 12 _(DC) | AFM310-309 | AFM315-309 | AFM320-309 | 20 | 7.20 | 0.600 | |
| | 24 _(DC) | AFM310-310 | AFM315-310 | AFM320-310 | 118 | 4.80 | 0.200 | |

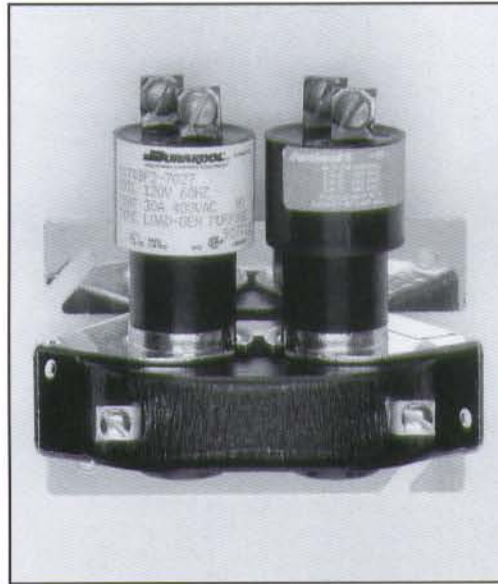
| ELECTRICAL RATINGS | GENERAL PURPOSE 0.7/0.8 UL Power Factor | | | | | | DC | | | Tungsten Lamp/60 Hz | AC MOTOR LOAD | | | |
|------------------------|--|-----|-----|-----|-----|-----|---------|------|-----|------------------------|---------------|------|---------|------|
| | | | | | | | | | | | 1 Phase | | 3 Phase | |
| Volts | 120 | 208 | 240 | 277 | 480 | 600 | 1-48 | 120 | 240 | 120 | 120 | 240 | 240 | |
| SERIES | 60 Hz Amps | | | | | | DC Amps | | | Amps | KW | Hp | Hp | Hp |
| AFM 10 (Normally Open) | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 5.0 | 3.0 | 10 | 1.2 | 0.25 | 0.25 | 0.75 |
| AFM 15 (Normally Open) | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 7.5 | 5.0 | 10 | 1.2 | 0.33 | 0.33 | 1.00 |
| AFM 20 (Normally Open) | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 10.0 | 8.0 | 10 | 1.2 | 0.50 | 0.50 | 1.50 |

 E35126 & E61703
 LR-22416

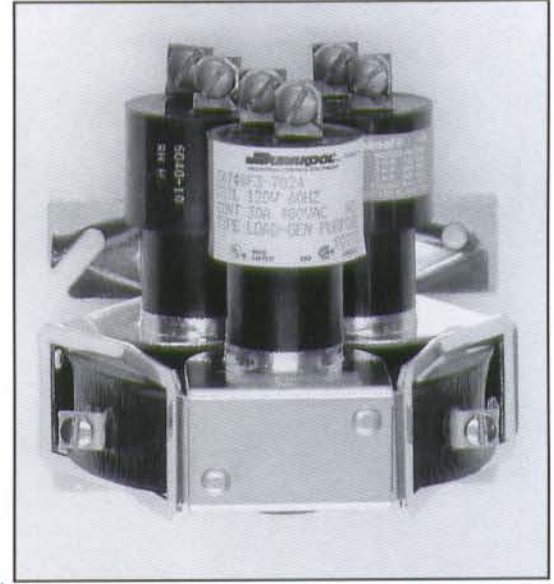
DURAKOOL Series BF (Open) & BB (Closed) 30 Amps



1 POLE
Weight 1.0 lbs.

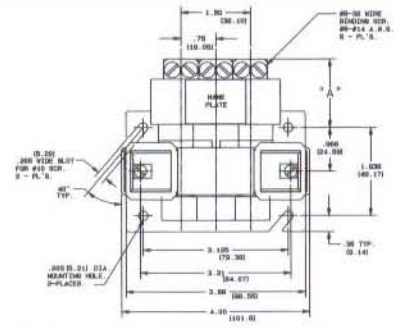
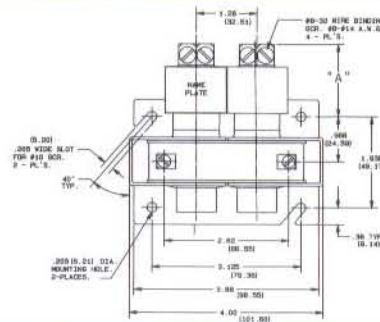
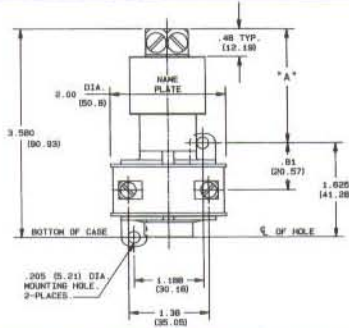


2 POLE
Weight 1.5 lbs.

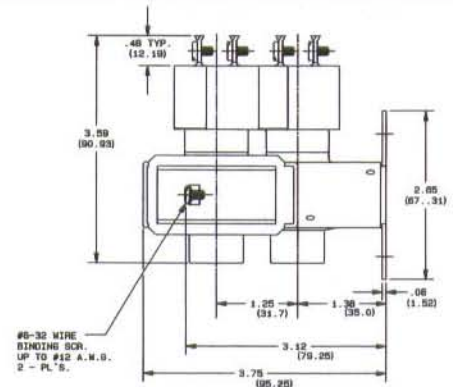
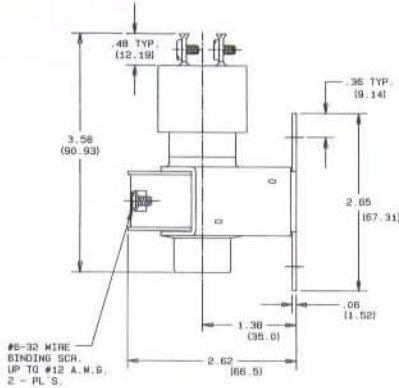
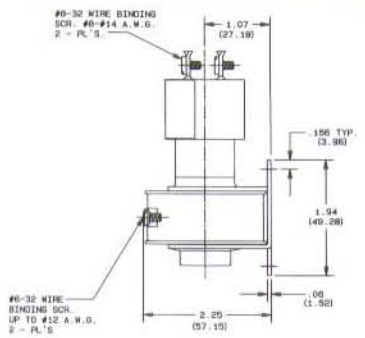


3 POLE
Weight 2.5 lbs.

FRONT VIEW



SIDE VIEW



DIMENSION "A"

| Hz | BF | | BB | | BF2 | | BB2 | | BF3 | | BB3 | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| DC | 1.69 | 42.9 | 1.59 | 40.4 | 1.57 | 39.9 | 1.44 | 36.6 | 1.57 | 39.9 | 1.44 | 36.6 |
| 50 | 1.86 | 47.2 | 1.54 | 39.1 | 1.57 | 39.9 | 1.39 | 35.3 | 1.57 | 39.9 | 1.39 | 35.3 |
| 50/60 | 1.86 | 47.2 | 1.54 | 39.1 | 1.57 | 39.9 | 1.39 | 35.3 | 1.57 | 39.9 | 1.39 | 35.3 |
| 60 | 1.86 | 47.2 | 1.54 | 39.1 | 1.57 | 39.9 | 1.39 | 35.3 | 1.57 | 39.9 | 1.39 | 35.3 |

DURAKOOL Series BF (Open) & BB (Closed) 30 Amps

Durakool 30 Amp general purpose contactors are available in 1, 2, and 3 pole configurations to suit a variety of design needs.

The BF (normally open) and BB (normally closed) both feature long-life contacts which provide low, stable contact resistance. Screw terminals are included for both load and control connections. The top wiring style of the load terminals allows efficient use of available panel space.



SPECIFICATIONS

(see pages 3-5 for other specifications)

| | | |
|-------------------------------|--|---------|
| Maximum Time: | Operate | Release |
| Normally Open: | 70 ms | 90 ms |
| Normally Closed: | 150 ms | 200 ms |
| Contact Bounce, Release: | None | |
| Recommended DC Load Polarity: | Center Tube Connector Negative | |
| Load Connectors: | *8-32 Wire Binding Screw, Max. *8 AWG Cu. | |
| Coil Terminals: | *6-32 Wire Binding Screw, Max. *12 AWG Cu. | |
| Breakdown Voltage: | 5000 VRMS/Min. Across Contacts | |

| TYPE/SERIES | | BF (Normally Open) | | | | BB (Normally Closed) | | | |
|-------------|---------|-----------------------|-------------------|-------|---------|-------------------------|-------------------|-------|-------|
| | | Part Number | Typical Coil Data | | | Part Number | Typical Coil Data | | |
| Volts | DC Ohms | | Watts | Amps | DC Ohms | | Watts | Amps | |
| 1 Pole | 24 | BF-7031 | 40 | 2.80 | 0.233 | BB-7001 | 40 | 2.00 | 0.189 |
| | 120 | BF-7032 | 902 | 3.69 | 0.057 | BB-7002 | 902 | 2.50 | 0.046 |
| | 208 | BF-7033 | 3100 | 3.46 | 0.030 | BB-7003 | 3100 | 2.50 | 0.026 |
| | 240 | BF-7034 | 3700 | 3.14 | 0.025 | BB-7004 | 3700 | 2.10 | 0.021 |
| | 277 | BF-7035 | 5410 | 3.42 | 0.022 | BB-7005 | 5410 | 2.50 | 0.017 |
| | 480 | BF-7036 | 15000 | 3.49 | 0.013 | BB-7006 | 15000 | 2.70 | 0.010 |
| | 12 (DC) | BF-7038 | 57 | 2.50 | 0.210 | BB-7027 | 57 | 2.50 | 0.209 |
| | 24 (DC) | BF-7046 | 230 | 2.50 | 0.104 | BB-7007 | 230 | 2.35 | 0.098 |
| | 2 Pole | 24 | BF2-7026 | 15 | 5.10 | 0.529 | BB2-2001 | 15 | 4.00 |
| 120 | | BF2-7027 | 350 | 7.10 | 0.130 | BB2-2020 | 350 | 5.60 | 0.108 |
| 208 | | BF2-7028 | 960 | 7.00 | 0.075 | BB2-2002 | 960 | 5.50 | 0.062 |
| 240 | | BF2-7029 | 1520 | 5.70 | 0.055 | BB2-2032 | 1520 | 4.30 | 0.046 |
| 277 | | BF2-7030 | 2300 | 5.70 | 0.045 | BB2-2024 | 2300 | 4.50 | 0.037 |
| 480 | | BF2-7031 | 5600 | 5.80 | 0.029 | BB2-2003 | 5600 | 4.60 | 0.023 |
| 12 (DC) | | BF2-7041 | 24 | 6.00 | 0.500 | BB2-2018 | 24 | 6.20 | 0.513 |
| 24 (DC) | | BF2-7032 | 90 | 6.40 | 0.266 | BB2-2004 | 90 | 6.00 | 0.250 |
| 3 Pole | | 24 | BF3-7023 | 5 | 11.10 | 1.270 | BB3-2008 | 5 | 9.20 |
| | 120 | BF3-7024 | 135 | 9.20 | 0.220 | BB3-2002 | 135 | 7.70 | 0.184 |
| | 208 | BF3-7025 | 480 | 8.70 | 0.111 | BB3-2009 | 480 | 7.20 | 0.094 |
| | 240 | BF3-7026 | 520 | 9.20 | 0.109 | BB3-2010 | 520 | 7.60 | 0.093 |
| | 277 | BF3-7027 | 830 | 8.10 | 0.081 | BB3-2011 | 830 | 6.70 | 0.067 |
| | 480 | BF3-7028 | 2100 | 9.40 | 0.055 | BB3-2012 | 2100 | 8.20 | 0.044 |
| | 12 (DC) | BF3-7037 | 12.8 | 11.20 | 0.938 | BB3-2013 | 12.8 | 10.60 | 0.883 |
| | 24 (DC) | BF3-7038 | 51 | 11.30 | 0.470 | BB3-2014 | 51 | 11.10 | 0.460 |

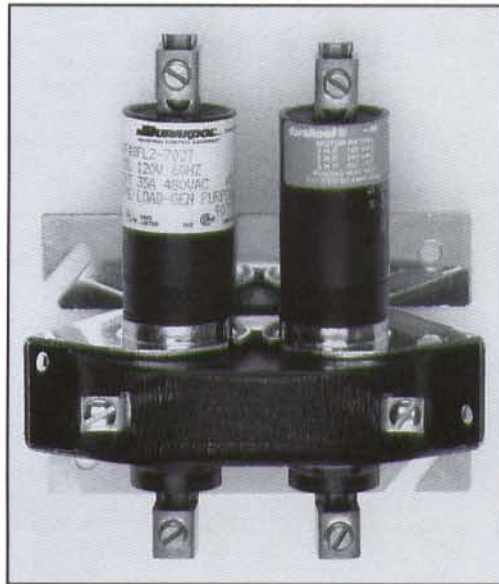
| ELECTRICAL RATINGS | GENERAL PURPOSE 0.7/0.8 UL Power Factor | | | | | | DC | | Tungsten Lamp/60 Hz | AC MOTOR LOAD | | | | | |
|-------------------------|--|-----|-----|-----|-----|-----|---------|------|------------------------|---------------|-----|---------|-----|---------|-----|
| | Volts | 120 | 208 | 240 | 277 | 480 | 600 | 1-48 | 120 | 240 | 120 | 1 Phase | | 3 Phase | |
| SERIES | 60 Hz Amps | | | | | | DC Amps | | Amps | KW | Hp | Hp | Hp | | |
| BF 30 (Normally Open) | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 25 | 15 | 30 | 3.6 | 2.0 | 3.0 | 5.0 |
| BB 30 (Normally Closed) | 30 | 22 | 20 | 18 | 10 | 8 | 30 | 20 | 10 | 20 | 2.4 | 1.5 | 2.0 | 3.0 | |

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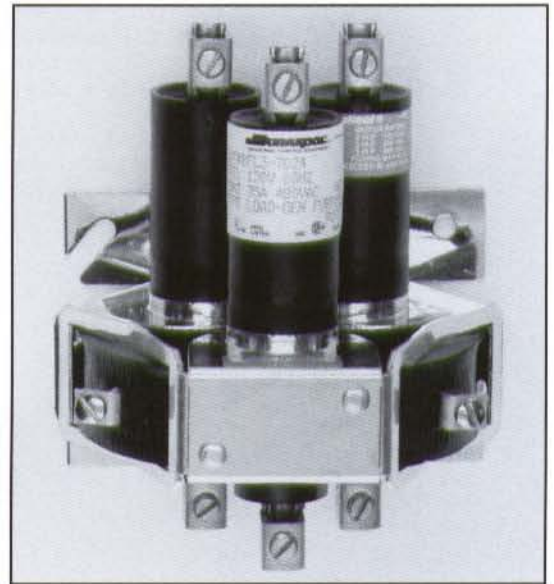
DURAKOOL Series BFL (Open) & BBL (Closed) 35 Amps



1 POLE
Weight 1.0 lbs.

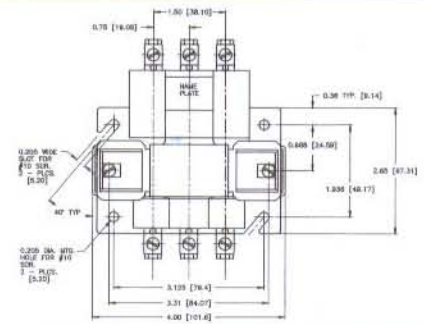
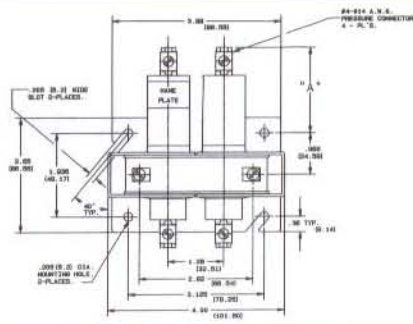
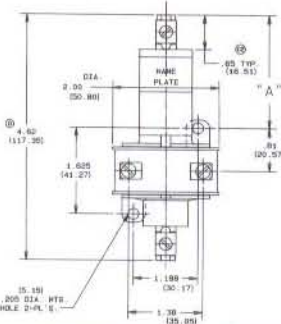


2 POLE
Weight 2.0 lbs.

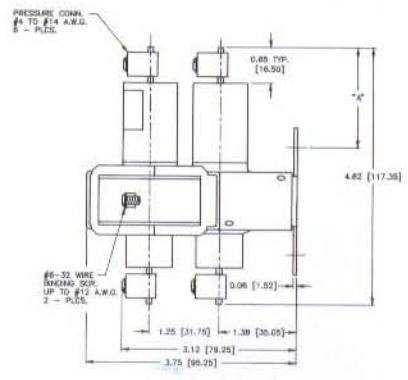
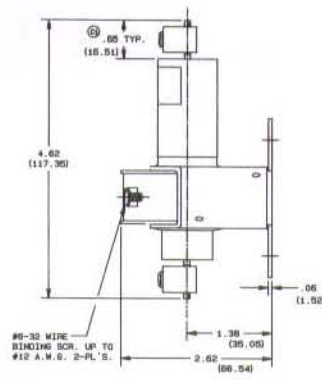
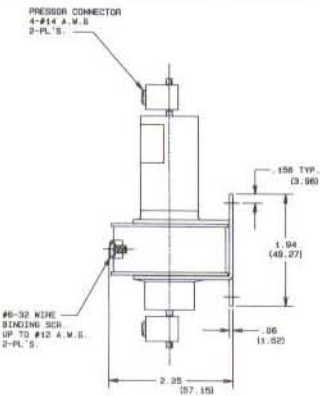


3 POLE
Weight 3.0 lbs.

FRONT VIEW



SIDE VIEW



DIMENSION "A"

| Hz | BFL | | BBL | | BFL2 | | BBL2 | | BFL3 | | BBL3 | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| DC | 2.00 | 50.8 | 2.08 | 52.8 | 1.84 | 46.7 | 1.92 | 48.8 | 1.84 | 46.7 | 1.92 | 48.8 |
| 50 | 2.00 | 50.8 | 2.03 | 51.6 | 1.84 | 46.7 | 1.87 | 47.5 | 1.84 | 46.7 | 1.87 | 47.5 |
| 50/60 | 2.00 | 50.8 | 2.03 | 51.6 | 1.84 | 46.7 | 1.87 | 47.5 | 1.84 | 46.7 | 1.87 | 47.5 |
| 60 | 2.00 | 50.8 | 2.03 | 51.6 | 1.84 | 46.7 | 1.87 | 47.5 | 1.84 | 46.7 | 1.87 | 47.5 |

DURAKOOL Series BFL (Open) & BBL (Closed) 35 Amps

These 35 Amp general purpose contactors offer additional load capacity as well as long contact-life performance. Top/bottom compression lug termination style allows easy connection to heavier leadwire (up to #4 AWG Copper).

Both BFL (normally open) and BBL (normally closed) are available in 1, 2, or 3 pole configurations, and feature low, stable contact resistance.

SPECIFICATIONS



(see pages 3-5 for other specifications)

| | | |
|-------------------------------|---|---------|
| Maximum Time: | Operate | Release |
| Normally Open: | 70 ms | 90 ms |
| Normally Closed: | 150 ms | 200 ms |
| Contact Bounce, Release: | None | |
| Recommended DC Load Polarity: | Top Connector Negative | |
| Load Connectors: | Pressure Connector #4-14 AWG Cu. | |
| Coil Terminals: | #6-32 Wire Binding Screw, Max. #12 AWG Cu. | |
| Breakdown Voltage: | 5000 VRMS/Min. Across Contacts | |

| TYPE/SERIES | | BFL (Normally Open) | | | | BBL (Normally Closed) | | | |
|-------------|--------|------------------------|-------------------|-------|-------|--------------------------|-------------------|-------|-------|
| DESCRIPTION | Volts | Part Number | Typical Coil Data | | | Part Number | Typical Coil Data | | |
| | | | DC Ohms | Watts | Amps | | DC Ohms | Watts | Amps |
| 1 Pole | 24 | BFL-7031 | 40 | 2.80 | 0.233 | BBL-1002 | 40 | 2.00 | 0.189 |
| | 120 | BFL-7032 | 902 | 3.69 | 0.057 | BBL-1011 | 902 | 2.50 | 0.046 |
| | 208 | BFL-7033 | 3100 | 3.46 | 0.030 | BBL-1003 | 3100 | 2.50 | 0.026 |
| | 240 | BFL-7034 | 3700 | 3.14 | 0.025 | BBL-1004 | 3700 | 2.10 | 0.021 |
| | 277 | BFL-7035 | 5410 | 3.42 | 0.022 | BBL-1005 | 5410 | 2.50 | 0.017 |
| | 480 | BFL-7036 | 15000 | 3.49 | 0.013 | BBL-1006 | 15000 | 2.70 | 0.010 |
| | 12(DC) | BFL-7058 | 57 | 2.50 | 0.210 | BBL-1007 | 57 | 2.50 | 0.209 |
| | 24(DC) | BFL-7048 | 230 | 2.50 | 0.104 | BBL-1008 | 230 | 2.35 | 0.098 |
| 2 Pole | 24 | BFL2-7026 | 15 | 5.10 | 0.529 | BBL2-1001 | 15 | 4.00 | 0.431 |
| | 120 | BFL2-7027 | 350 | 7.10 | 0.130 | BBL2-1002 | 350 | 5.60 | 0.108 |
| | 208 | BFL2-7028 | 960 | 7.00 | 0.075 | BBL2-1003 | 960 | 5.50 | 0.062 |
| | 240 | BFL2-7029 | 1520 | 5.70 | 0.055 | BBL2-1004 | 1520 | 4.30 | 0.046 |
| | 277 | BFL2-7030 | 2300 | 5.70 | 0.045 | BBL2-1005 | 2300 | 4.50 | 0.037 |
| | 480 | BFL2-7031 | 5600 | 5.80 | 0.029 | BBL2-1006 | 5600 | 4.60 | 0.023 |
| | 12(DC) | BFL2-7041 | 24 | 6.00 | 0.500 | BBL2-1007 | 24 | 6.00 | 0.500 |
| | 24(DC) | BFL2-7032 | 90 | 6.40 | 0.266 | BBL2-1008 | 90 | 6.40 | 0.266 |
| 3 Pole | 24 | BFL3-7023 | 5 | 11.10 | 1.270 | BBL3-1001 | 5 | 11.10 | 1.270 |
| | 120 | BFL3-7024 | 135 | 9.20 | 0.220 | BBL3-1002 | 135 | 9.20 | 0.220 |
| | 208 | BFL3-7025 | 480 | 8.70 | 0.111 | BBL3-1003 | 480 | 7.20 | 0.094 |
| | 240 | BFL3-7026 | 520 | 9.20 | 0.109 | BBL3-1004 | 520 | 7.60 | 0.093 |
| | 277 | BFL3-7027 | 830 | 8.10 | 0.081 | BBL3-1005 | 830 | 6.70 | 0.067 |
| | 480 | BFL3-7028 | 2100 | 9.40 | 0.055 | BBL3-1006 | 2100 | 8.20 | 0.044 |
| | 12(DC) | BFL3-7037 | 12.8 | 11.20 | 0.938 | BBL3-1007 | 12.8 | 10.60 | 0.883 |
| | 24(DC) | BFL3-7038 | 51 | 11.30 | 0.470 | BBL3-1008 | 51 | 11.10 | 0.460 |

50 Hz models also available.

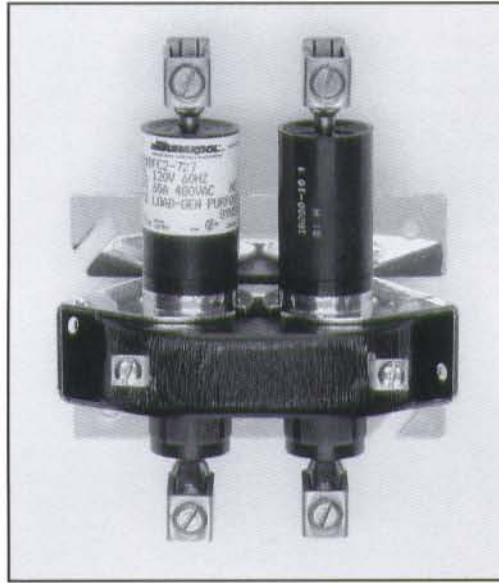
| ELECTRICAL RATINGS | GENERAL PURPOSE 0.7/0.8 UL Power Factor | | | | | | | DC | | | Tungsten Lamp/60 Hz | AC MOTOR LOAD | | | |
|--------------------------|--|-----|-----|-----|-----|-----|----|---------|-----|-----|------------------------|---------------|-----|---------|----|
| | | | | | | | | 1-48 | 120 | 240 | 120 | 1 Phase | | 3 Phase | |
| Volts | 120 | 208 | 240 | 277 | 480 | 600 | | | | | 120 | 240 | 240 | | |
| SERIES | 60 Hz Amps | | | | | | | DC Amps | | | Amps | KW | Hp | Hp | Hp |
| BFL 35 (Normally Open) | 35 | 35 | 35 | 35 | 35 | 15 | 35 | 25 | 15 | 30 | 3.6 | 2.0 | 3.0 | 5.0 | |
| BBL 35 (Normally Closed) | 30 | 22 | 20 | 18 | 10 | 8 | 30 | 20 | 10 | 20 | 2.4 | 1.5 | 2.0 | 3.0 | |

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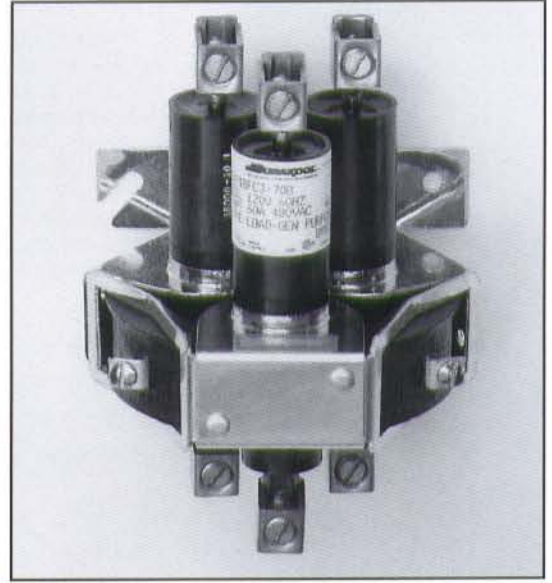
DURAKOOL Series BFC (Open) & BBC (Closed) 60 Amps



1 POLE
Weight 1.0 lbs.

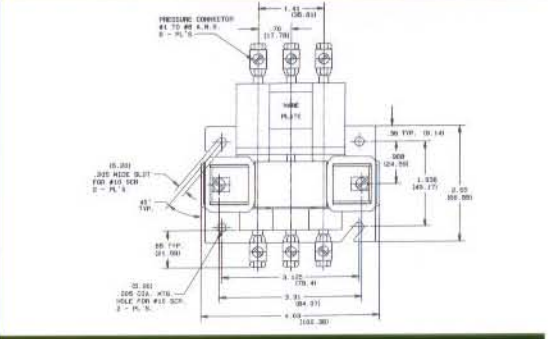
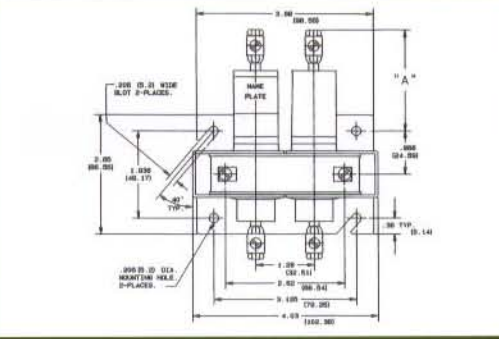
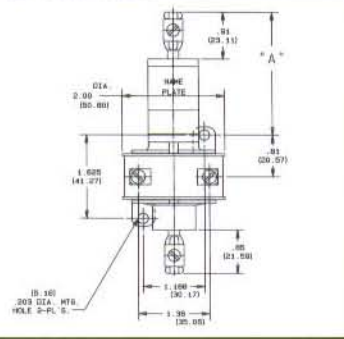


2 POLE
Weight 2.0 lbs.

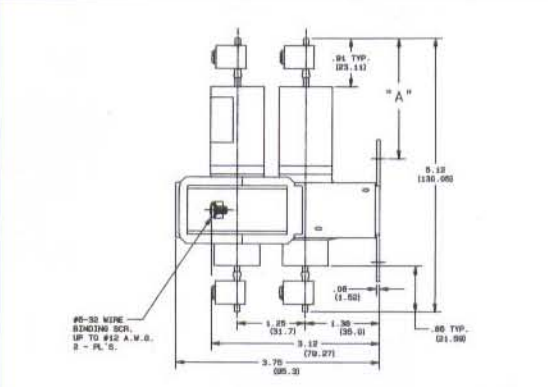
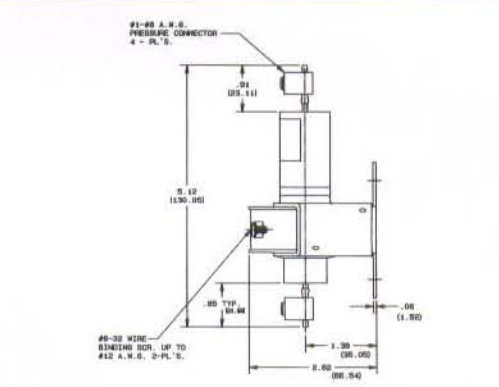
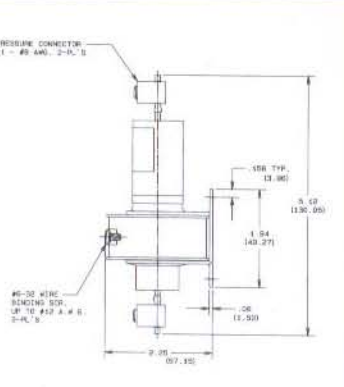


3 POLE
Weight 3.0 lbs.

FRONT VIEW



SIDE VIEW



DIMENSION "A"

| Hz | BFC | | BBC | | BFC2 | | BBC2 | | BFC3 | | BBC3 | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| DC | 2.32 | 58.9 | 2.15 | 54.6 | 2.17 | 55.1 | 2.00 | 50.8 | 2.17 | 55.1 | 2.00 | 50.8 |
| 50 | 2.41 | 61.2 | 2.10 | 53.3 | 2.26 | 57.4 | 1.95 | 49.5 | 2.26 | 57.4 | 1.95 | 49.5 |
| 50/60 | 2.41 | 61.2 | 2.10 | 53.3 | 2.26 | 57.4 | 1.95 | 49.5 | 2.26 | 57.4 | 1.95 | 49.5 |
| 60 | 2.41 | 61.2 | 2.10 | 53.3 | 2.26 | 57.4 | 1.95 | 49.5 | 2.26 | 57.4 | 1.95 | 49.5 |

DURAKOOL Series BFC (Open) & BBC (Closed) 60 Amps

The unusually long life of Durakool "B" size contactors in proportional temperature control systems has made them the most popular choice of designers of process heating controls.

BFC (normally open) and BBC (normally closed) contactors are general purpose, 60 Amp rated, featuring mercury-to-tungsten contacts. Tungsten's ability to resist arcing erosion greatly prolongs the life of the contactor. These relays can be used in plastic extrusion equipment to cycle heaters for precise temperature control.

SPECIFICATIONS

(see pages 3-5 for other specifications)

| | | |
|------------------|---------|---------|
| Maximum Time: | Operate | Release |
| Normally Open: | 70 ms | 90 ms |
| Normally Closed: | 120 ms | 90 ms |

Contact Bounce, Release: None

Recommended

| | |
|--------------------|--|
| DC Load Polarity: | Top Connector Negative |
| Load Connectors: | Pressure Connector #1-8 AWG Cu. |
| Coil Terminals: | #6-32 Wire Binding Screw, Max. #12 AWG Cu. |
| Breakdown Voltage: | 5000 VRMS/Min. Across Contacts |

| TYPE/SERIES | BFC (Normally Open) | | | | BBC (Normally Closed) | | | | | |
|-------------|------------------------|-------------|-------------------|-------|--------------------------|-------------|-------------------|-------|-------|-------|
| | DESCRIPTION | Part Number | Typical Coil Data | | | Part Number | Typical Coil Data | | | |
| DC Ohms | | | Watts | Amps | DC Ohms | | Watts | Amps | | |
| 1 Pole | Volts | | | | | | | | | |
| | 24 | BFC-716 | 40 | 2.60 | 0.235 | BBC-701 | 40 | 2.80 | 0.229 | |
| | 120 | BFC-717 | 902 | 3.47 | 0.055 | BBC-702 | 902 | 3.50 | 0.055 | |
| | 208 | BFC-718 | 3100 | 3.50 | 0.029 | BBC-703 | 3100 | 3.40 | 0.029 | |
| | 240 | BFC-719 | 3700 | 3.40 | 0.026 | BBC-704 | 3700 | 2.90 | 0.024 | |
| | 277 | BFC-720 | 5410 | 3.46 | 0.022 | BBC-705 | 5410 | 3.40 | 0.020 | |
| | 480 | BFC-721 | 15000 | 3.54 | 0.012 | BBC-706 | 15000 | 3.60 | 0.010 | |
| | 12 (DC) | BFC-730 | 57 | 3.64 | 0.293 | BBC-719 | 57 | 2.50 | 0.214 | |
| | 24 (DC) | BFC-722 | 230 | 3.48 | 0.146 | BBC-707 | 230 | 2.40 | 0.099 | |
| | 2 Pole | 24 | BFC2-726 | 15 | 5.20 | 0.515 | BBC2-309 | 15 | 5.00 | 0.510 |
| 120 | | BFC2-727 | 350 | 7.46 | 0.133 | BBC2-305 | 350 | 6.60 | 0.123 | |
| 208 | | BFC2-728 | 960 | 7.39 | 0.076 | BBC2-310 | 960 | 6.30 | 0.070 | |
| 240 | | BFC2-729 | 1520 | 6.18 | 0.056 | BBC2-306 | 1520 | 5.40 | 0.054 | |
| 277 | | BFC2-730 | 2300 | 6.14 | 0.045 | BBC2-311 | 2300 | 5.50 | 0.044 | |
| 480 | | BFC2-731 | 5600 | 6.47 | 0.027 | BBC2-312 | 5600 | 5.60 | 0.027 | |
| 12 (DC) | | BFC2-741 | 24 | 6.10 | 0.506 | BBC2-313 | 24 | 6.00 | 0.500 | |
| 24 (DC) | | BFC2-733 | 90 | 6.00 | 0.253 | BBC2-308 | 90 | 6.00 | 0.250 | |
| 3 Pole | | 24 | BFC3-707 | 4.5 | 3.65 | 2.492 | BBC3-308 | 5 | 10.20 | 1.170 |
| | | 120 | BFC3-708 | 122 | 9.54 | 0.224 | BBC3-303 | 135 | 8.80 | 0.208 |
| | 208 | BFC3-709 | 430 | 8.66 | 0.112 | BBC3-309 | 480 | 8.60 | 0.108 | |
| | 240 | BFC3-710 | 470 | 9.47 | 0.110 | BBC3-306 | 520 | 8.60 | 0.104 | |
| | 277 | BFC3-711 | 747 | 8.22 | 0.081 | BBC3-310 | 830 | 7.80 | 0.077 | |
| | 480 | BFC3-712 | 1900 | 10.12 | 0.055 | BBC3-311 | 2100 | 9.40 | 0.050 | |
| | 12 (DC) | BFC3-720 | 11.5 | 10.10 | 0.866 | BBC3-312 | 12.8 | 10.70 | 0.890 | |
| | 24 (DC) | BFC3-721 | 46 | 11.10 | 0.461 | BBC3-313 | 51 | 11.30 | 0.470 | |

50 Hz models also available.

| ELECTRICAL RATINGS | GENERAL PURPOSE 0.7/0.8 UL Power Factor | | | | | | DC | | | Tungsten Lamp/60 Hz | AC MOTOR LOAD | | | | | | |
|--------------------------|--|-----|-----|-----|-----|-----|---------|-----|-----|------------------------|---------------|-----|-----|---------|-----|------|------|
| | | | | | | | | | | | 1 Phase | | | 3 Phase | | | |
| Volts | 120 | 208 | 240 | 277 | 480 | 600 | 1-48 | 120 | 240 | 120 | 120 | 240 | 480 | 120 | 240 | 480 | |
| SERIES | 60 Hz Amps | | | | | | DC Amps | | | Amps | KW | Hp | Hp | Hp | Hp | Hp | Hp |
| BFC 60 (Normally Open) | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 30 | 20 | 60 | 7.2 | 3.0 | 5.0 | 7.5 | 5.0 | 10.0 | 15.0 |
| BBC 60 (Normally Closed) | 60 | 45 | 45 | 45 | 35 | 25 | 60 | 30 | 20 | 55 | 6.6 | 3.0 | 5.0 | — | 5.0 | 7.5 | — |

| UL E35126 & E61703 SF LR-22416 | DEFINITE PURPOSE MOTOR RATING, SERIES BFC | | | | |
|-----------------------------------|---|-------------------------------|-----|----------------|---------------|
| | VAC | Breaking All Lines FLA LRA | | 1 Phase FLA | 1 Pole LRA |
| | 240 | 26 | 156 | — | — |
| 480 | 14 | 80 | 14 | 80 | |

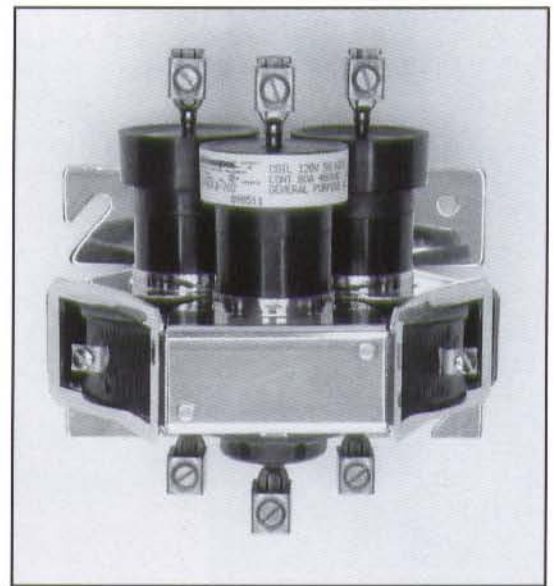
DURAKOOL Series CF (Open) & CB (Closed) 80 Amps



1 POLE
Weight 2.0 lbs.

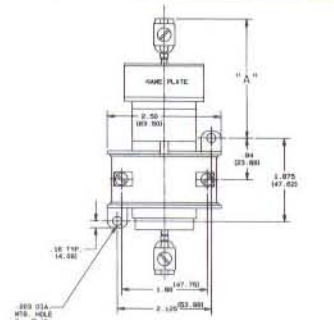


2 POLE
Weight 3.5 lbs.

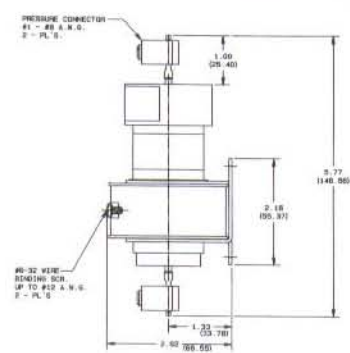


3 POLE
Weight 4.5 lbs.

FRONT VIEW



SIDE VIEW



DIMENSION "A"

| Hz | CF | | CB | | CF2 | | CB2 | | CF3 | | CB3 | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| DC | 2.39 | 60.7 | 2.04 | 51.8 | 1.93 | 49.0 | 1.58 | 40.1 | 1.93 | 49.0 | 1.58 | 40.1 |
| 50 | 2.62 | 66.5 | 2.02 | 51.3 | 2.16 | 54.9 | 1.56 | 39.6 | 2.16 | 54.9 | 1.56 | 39.6 |
| 50/60 | 2.66 | 67.6 | 2.02 | 51.3 | 2.21 | 56.1 | 1.56 | 39.6 | 2.21 | 56.1 | 1.56 | 39.6 |
| 60 | 2.66 | 67.6 | 1.92 | 48.8 | 2.21 | 56.1 | 1.46 | 37.1 | 2.21 | 56.1 | 1.46 | 37.1 |

DURAKOOL Series CF (Open) & CB (Closed) 80 Amps

These Durakool CF (normally open) and CB (normally closed) contactors are general-purpose rated at 80 Amps. Compression-lug connectors, top and bottom, provide easy installation.

"C" size Durakool contactors have mercury-to-tungsten contacts which can handle inductive, tungsten, motor and resistive loads. Tungsten's ability to resist arcing erosion greatly prolongs the life of the contactor.

SPECIFICATIONS

(see pages 3-5 for other specifications)

| | | |
|--------------------------|---|---------|
| Maximum Time: | Operate | Release |
| Normally Open: | 90 ms | 140 ms |
| Normally Closed: | 200 ms | 100 ms |
| Contact Bounce, Release: | Allowed on normally open models | |
| Recommended | | |
| DC Load Polarity: | Top Connector Negative | |
| Load Connectors: | Pressure Connector #1-8 AWG Cu. | |
| Coil Terminals: | #6-32 Wire Binding Screw, Max. #12 AWG Cu. | |
| Breakdown Voltage: | 5000 VRMS/Min. Across Contacts | |

| TYPE/SERIES | | CF (Normally Open) | | | | CB (Normally Closed) | | | |
|-------------|---------|-----------------------|-------------------|-------|-------|-------------------------|-------------------|-------|-------|
| DESCRIPTION | Volts | Part Number | Typical Coil Data | | | Part Number | Typical Coil Data | | |
| | | | DC Ohms | Watts | Amps | | DC Ohms | Watts | Amps |
| 1 Pole | 24 | CF-701 | 7.1 | 9.6 | 0.930 | CB-306 | 7.1 | 7.7 | 0.837 |
| | 120 | CF-702 | 180 | 10.2 | 0.195 | CB-301 | 180 | 8.5 | 0.179 |
| | 208 | CF-703 | 600 | 9.5 | 0.097 | CB-307 | 600 | 7.6 | 0.087 |
| | 240 | CF-704 | 680 | 10.8 | 0.103 | CB-304 | 680 | 9.3 | 0.093 |
| | 277 | CF-705 | 1000 | 9.8 | 0.079 | CB-308 | 1000 | 8.0 | 0.070 |
| | 480 | CF-706 | 2700 | 11.8 | 0.052 | CB-309 | 2700 | 9.4 | 0.046 |
| | 12 (DC) | CF-730 | 27 | 5.2 | 0.436 | CB-310 | 27 | 5.3 | 0.441 |
| | 24 (DC) | CF-707 | 111 | 5.2 | 0.217 | CB-311 | 111 | 5.2 | 0.217 |
| 2 Pole | 24 | CF2-701 | 2.8 | 22.2 | 2.310 | CB2-301 | 2.8 | 17.0 | 2.120 |
| | 120 | CF2-702 | 66 | 21.6 | 0.448 | CB2-302 | 66 | 17.8 | 0.408 |
| | 208 | CF2-703 | 165 | 23.9 | 0.280 | CB2-303 | 165 | 20.2 | 0.265 |
| | 240 | CF2-704 | 260 | 18.9 | 0.202 | CB2-304 | 260 | 15.4 | 0.182 |
| | 277 | CF2-705 | 430 | 18.4 | 0.164 | CB2-305 | 430 | 14.5 | 0.145 |
| | 480 | CF2-706 | 1100 | 21.0 | 0.104 | CB2-306 | 1100 | 16.6 | 0.094 |
| | 12 (DC) | CF2-707 | 10 | 13.8 | 1.153 | CB2-308 | 10 | 14.3 | 1.194 |
| | 24 (DC) | CF2-708 | 40 | 13.6 | 0.570 | CB2-307 | 40 | 13.6 | 0.570 |
| 3 Pole | 24 | CF3-701 | 1.4 | 47.0 | 5.060 | CB3-301 | 1.4 | 40.0 | 4.720 |
| | 120 | CF3-702 | 23 | 39.0 | 0.924 | CB3-302 | 23 | 33.3 | 0.850 |
| | 208 | CF3-703 | 100 | 26.6 | 0.388 | CB3-303 | 100 | 23.0 | 0.345 |
| | 240 | CF3-704 | 110 | 27.7 | 0.361 | CB3-304 | 110 | 24.0 | 0.321 |
| | 277 | CF3-705 | 150 | 31.5 | 0.327 | CB3-305 | 150 | 26.9 | 0.294 |
| | 480 | CF3-706 | 440 | 28.8 | 0.185 | CB3-306 | 440 | 24.2 | 0.162 |
| | 12 (DC) | CF3-707 | 10 | 13.5 | 1.127 | CB3-308 | 10 | 13.4 | 1.120 |
| | 24 (DC) | CF3-708 | 40 | 13.3 | 0.555 | CB3-307 | 40 | 13.4 | 0.558 |

50 Hz models also available.

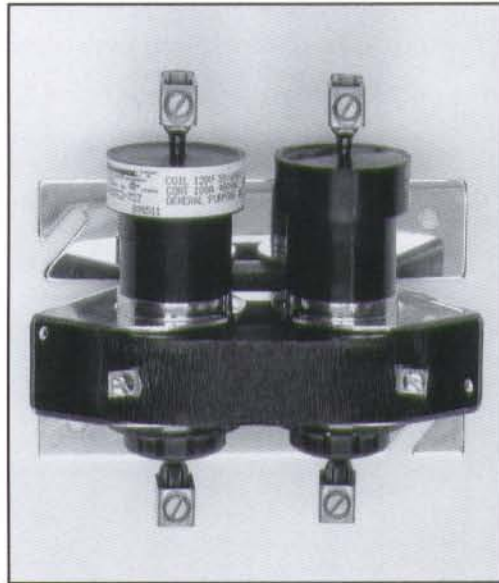
| ELECTRICAL RATINGS | GENERAL PURPOSE 0.7/0.8 UL Power Factor | | | | | | DC | | | Tungsten Lamp/60 Hz | AC MOTOR LOAD | | | |
|-------------------------|--|-----|-----|-----|-----|-----|---------|-----|-----|------------------------|---------------|-----|---------|------|
| | 120 | 208 | 240 | 277 | 480 | 600 | 1-48 | 120 | 240 | 120 | 1 Phase | | 3 Phase | |
| Volts | | | | | | | | | | | 120 | 240 | 240 | |
| SERIES | 60 Hz Amps | | | | | | DC Amps | | | Amps | KW | Hp | Hp | Hp |
| CF 80 (Normally Open) | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 35 | 25 | 80 | 9.6 | 5.0 | 7.5 | 15.0 |
| CB 80 (Normally Closed) | 80 | 80 | 80 | 60 | 60 | 40 | 80 | 35 | 25 | 75 | 9.0 | 5.0 | 7.5 | 15.0 |

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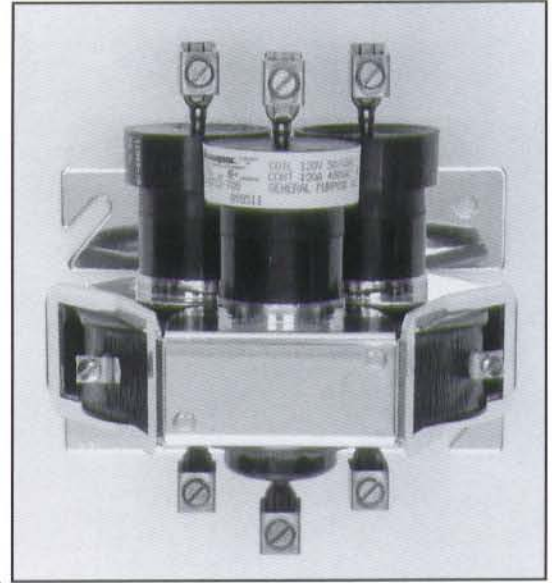
DURAKOOL Series CFC (Open) & CBC (Closed) 100 Amps



1 POLE
Weight 2.0 lbs.

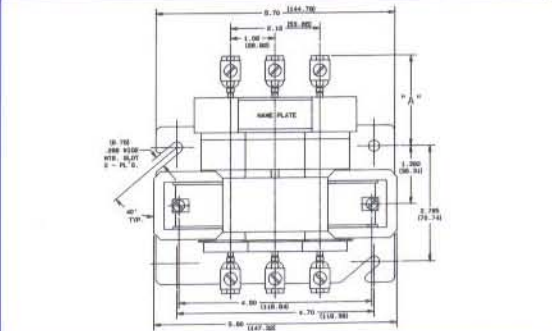
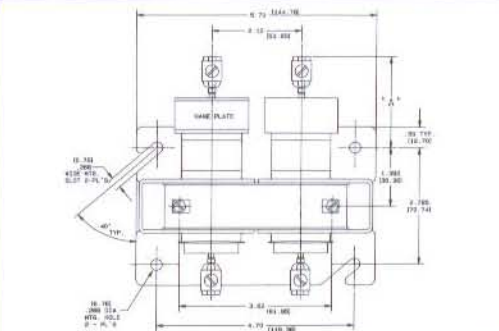
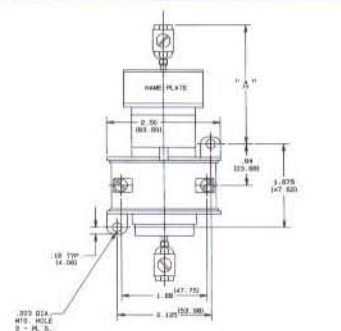


2 POLE
Weight 4.0 lbs.

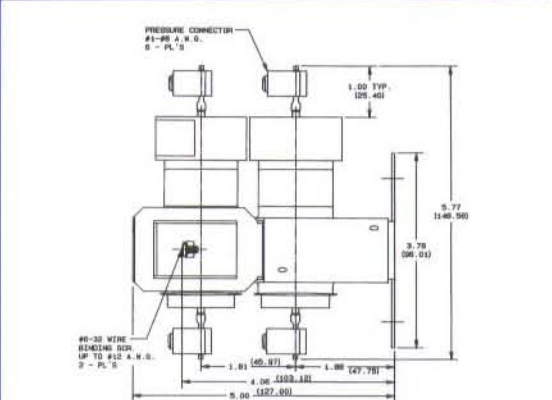
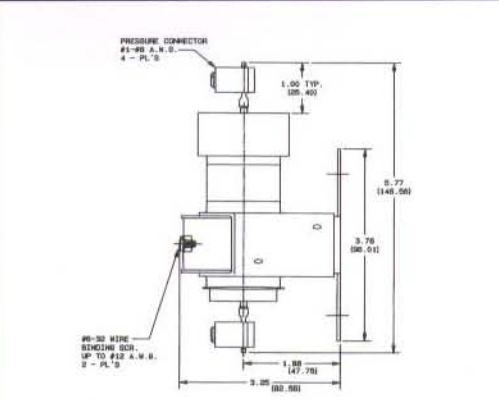
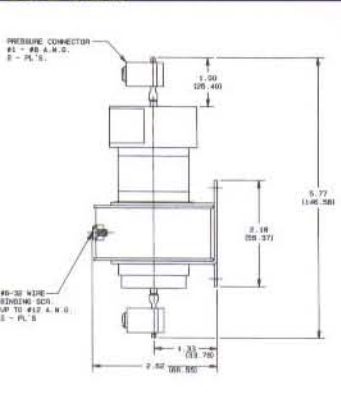


3 POLE
Weight 7.0 lbs.

FRONT VIEW



SIDE VIEW



DIMENSION "A"

| Hz | CFC | | CBC | | CFC2 | | CBC2 | | CFC3 | | CBC3 | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| DC | 2.39 | 60.7 | 2.04 | 51.8 | 1.93 | 49.0 | 1.58 | 40.1 | 1.93 | 49.0 | 1.58 | 40.1 |
| 50 | 2.62 | 66.5 | 2.02 | 51.3 | 2.16 | 54.9 | 1.56 | 39.6 | 2.16 | 54.9 | 1.56 | 39.6 |
| 50/60 | 2.66 | 67.6 | 2.02 | 51.3 | 2.21 | 56.1 | 1.56 | 39.6 | 2.21 | 56.1 | 1.56 | 39.6 |
| 60 | 2.66 | 67.6 | 1.92 | 48.8 | 2.21 | 56.1 | 1.46 | 37.1 | 2.21 | 56.1 | 1.46 | 37.1 |

DURAKOOL Series CFC (Open) & CBC (Closed) 100 Amps

Durakool mercury contactors are a favorite choice for high reliability lighting and heating control. Their low maintenance and excellent tungsten in-rush handling characteristics provide dependable long-term operation. CFC (normally open) and CBC (normally closed) contactors are general purpose rated at 100 Amps. Top and bottom compression-lug connectors provide secure connection.

"C" size Durakool contactors have mercury-to-tungsten contacts for easy handling of inductive, tungsten, motor and resistive loads. Tungsten's resistance to arcing erosion prolongs the life of the contactor.

SPECIFICATIONS

(see pages 3-5 for other specifications)



| | | |
|--------------------------|---------------------------------|---------|
| Maximum Time: | Operate | Release |
| Normally Open: | 90 ms | 140 ms |
| Normally Closed: | 200 ms | 100 ms |
| Contact Bounce, Release: | Allowed on normally open models | |

Recommended

| | |
|--------------------|---|
| DC Load Polarity: | Top Connector Negative |
| Load Connectors: | Pressure Connector #1-8 AWG Cu. |
| Coil Terminals: | #6-32 Wire Binding Screw, Max. #12 AWG Cu. |
| Breakdown Voltage: | 5000 VRMS/Min. Across Contacts |

| TYPE/SERIES | | CFC (Normally Open) | | | | CBC (Normally Closed) | | | | |
|-------------|---------|------------------------|-------------------|-------|-------|--------------------------|-------------------|-------|-------|-------|
| DESCRIPTION | Volts | Part Number | Typical Coil Data | | | Part Number | Typical Coil Data | | | |
| | | | DC Ohms | Watts | Amps | | DC Ohms | Watts | Amps | |
| 1 Pole | 24 | CFC-717 | 7.1 | 9.6 | 0.930 | CBC-701 | 7.1 | 7.7 | 0.837 | |
| | 120 | CFC-718 | 180 | 10.2 | 0.195 | CBC-702 | 180 | 8.5 | 0.179 | |
| | 208 | CFC-719 | 600 | 9.5 | 0.097 | CBC-703 | 600 | 7.6 | 0.087 | |
| | 240 | CFC-720 | 680 | 10.8 | 0.103 | CBC-704 | 680 | 9.3 | 0.093 | |
| | 277 | CFC-721 | 1000 | 9.8 | 0.079 | CBC-705 | 1000 | 8.0 | 0.070 | |
| | 480 | CFC-722 | 2700 | 11.8 | 0.057 | CBC-706 | 2700 | 9.4 | 0.046 | |
| | 12 (DC) | CFC-731 | 27 | 5.2 | 0.436 | CBC-719 | 27 | 5.3 | 0.441 | |
| | 24 (DC) | CFC-723 | 111 | 5.2 | 0.217 | CBC-707 | 111 | 5.2 | 0.217 | |
| | 2 Pole | 24 | CFC2-726 | 2.8 | 22.2 | 2.310 | CBC2-315 | 2.8 | 17.0 | 2.120 |
| | | 120 | CFC2-727 | 66 | 21.6 | 0.448 | CBC2-309 | 66 | 17.8 | 0.408 |
| 208 | | CFC2-728 | 165 | 23.9 | 0.280 | CBC2-316 | 165 | 20.2 | 0.265 | |
| 240 | | CFC2-729 | 260 | 18.9 | 0.202 | CBC2-306 | 260 | 15.4 | 0.182 | |
| 277 | | CFC2-730 | 430 | 18.4 | 0.164 | CBC2-317 | 430 | 14.5 | 0.145 | |
| 480 | | CFC2-731 | 1100 | 21.0 | 0.104 | CBC2-313 | 1100 | 16.6 | 0.094 | |
| 12 (DC) | | CFC2-741 | 10 | 13.8 | 1.153 | CBC2-318 | 10 | 14.3 | 1.194 | |
| 24 (DC) | | CFC2-733 | 40 | 13.6 | 0.570 | CBC2-319 | 40 | 13.6 | 0.570 | |
| 3 Pole | | 24 | CFC3-707 | 1.4 | 47.0 | 5.060 | CBC3-307 | 1.4 | 40.0 | 4.720 |
| | | 120 | CFC3-708 | 23 | 39.0 | 0.924 | CBC3-304 | 23 | 33.0 | 0.850 |
| | 208 | CFC3-709 | 100 | 26.0 | 0.388 | CBC3-308 | 100 | 23.0 | 0.345 | |
| | 240 | CFC3-710 | 110 | 27.7 | 0.361 | CBC3-306 | 110 | 24.0 | 0.321 | |
| | 277 | CFC3-711 | 150 | 31.5 | 0.327 | CBC3-309 | 150 | 26.9 | 0.294 | |
| | 480 | CFC3-712 | 440 | 28.8 | 0.185 | CBC3-305 | 440 | 24.2 | 0.162 | |
| | 12 (DC) | CFC3-720 | 10 | 13.5 | 1.127 | CBC3-310 | 10 | 13.4 | 1.121 | |
| | 24 (DC) | CFC3-721 | 40 | 13.3 | 0.555 | CBC3-311 | 40 | 13.4 | 0.558 | |

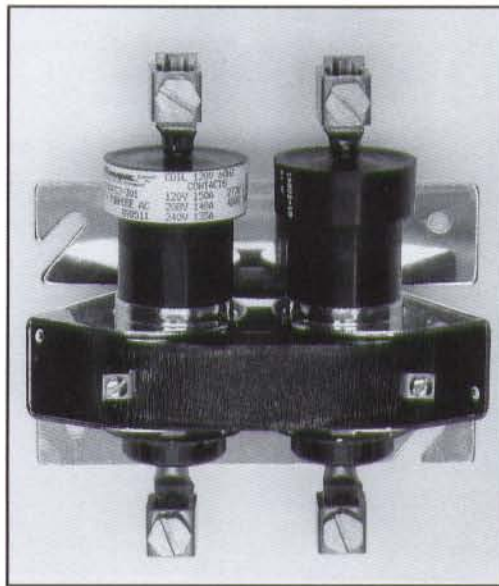
| ELECTRICAL RATINGS | GENERAL PURPOSE 0.7/0.8 UL Power Factor | | | | | | DC | | | Tungsten Lamp/60 Hz | AC MOTOR LOAD | | | |
|---------------------------|--|-----|-----|-----|-----|-----|---------|-----|-----|------------------------|---------------|-----|---------|----|
| | Volts | | | | | | 1-48 | 120 | 240 | 120 | 1 Phase | | 3 Phase | |
| SERIES | 60 Hz Amps | | | | | | DC Amps | | | Amps | KW | Hp | Hp | Hp |
| CFC 100 (Normally Open) | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 50 | 30 | 100 | 12.0 | 7.5 | 10 | 20 |
| CBC 100 (Normally Closed) | 100 | 90 | 90 | 60 | 60 | 70 | 100 | 50 | 30 | 90 | 10.8 | 7.5 | 10 | 20 |

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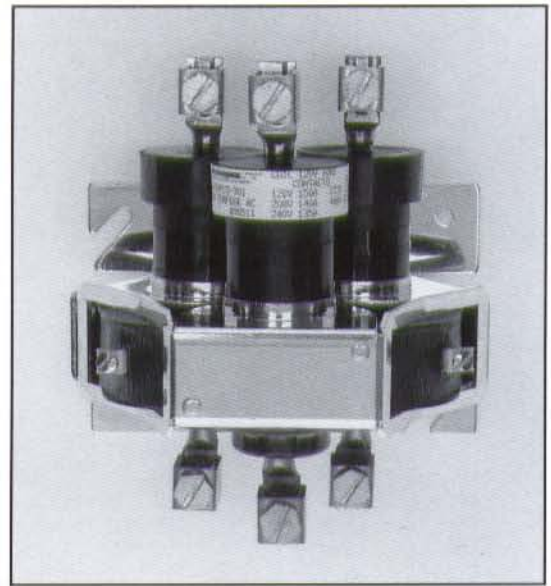
DURAKOOL Series DFC 150 Amps



1 POLE
Weight 2.5

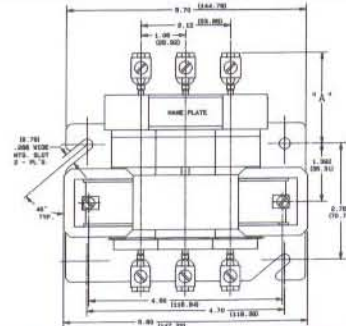
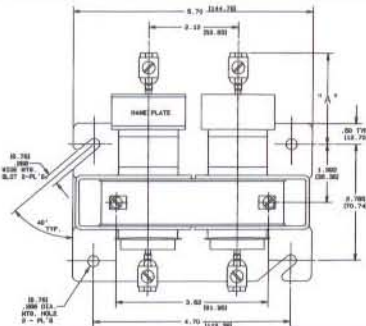
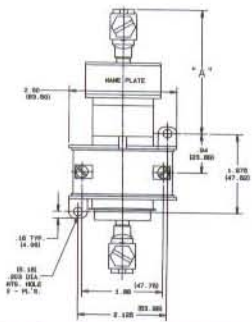


2 POLE
Weight 4.5

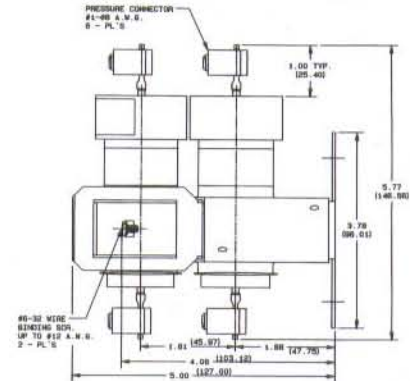
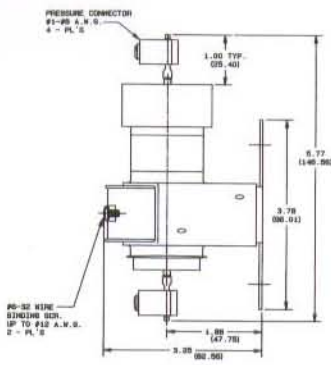
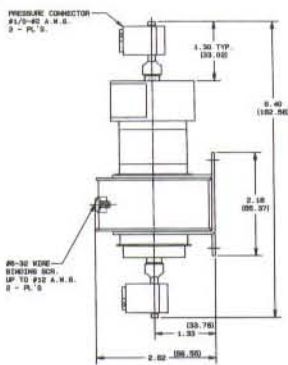


3 POLE
Weight 7.0

FRONT VIEW



SIDE VIEW



DIMENSION "A"

| Hz | DFC | | DFC2 | | DFC3 | |
|-------|------|------|------|------|------|------|
| | in. | mm | in. | mm | in. | mm |
| DC | 2.69 | 68.3 | 2.23 | 56.6 | 2.23 | 56.6 |
| 50 | 2.92 | 74.2 | 2.46 | 62.5 | 2.46 | 62.5 |
| 50/60 | 2.96 | 75.2 | 2.50 | 63.5 | 2.46 | 62.5 |
| 60 | 2.96 | 75.2 | 2.50 | 63.5 | 2.46 | 62.5 |

DURAKOOL Series DFC 150 Amps

Because of their virtually silent operation, Durakool contactors are the right solution for power switching in theaters, hospitals, nursing homes, and other "quiet zone" applications.

The normally open DFC contactors are general purpose rated at 150 Amps. Their long-lasting mercury-to-tungsten contacts resist arcing erosion and can handle inductive, tungsten, and resistive loads.



SPECIFICATIONS

(see pages 3-5 for other specifications)

| | | |
|-------------------------------|--|-------------------|
| Maximum Time: | Operate 90 ms | Release 140 ms |
| Contact Bounce, Release: | Allowed | |
| Recommended DC Load Polarity: | Top Connector Negative | |
| Load Connectors: | Pressure Connector #1/0-#2 AWG Cu. | |
| Coil Terminals: | #6-32 Wire Binding Screw, Max. #12 AWG Cu. | |
| Breakdown Voltage: | 5000 VRMS/Min. Across Contacts | |

| TYPE/SERIES | | DFC 150 Amps | | | |
|----------------------|---------|--------------|-------------------|-------|-------|
| DESCRIPTION | | Part Number | Typical Coil Data | | |
| Volts | | | DC Ohms | Watts | Amps |
| 1 Pole Normally Open | 24 | DFC-307 | 7.1 | 8.2 | 0.815 |
| | 120 | DFC-301 | 180 | 8.8 | 0.171 |
| | 208 | DFC-304 | 600 | 8.0 | 0.086 |
| | 240 | DFC-303 | 680 | 9.4 | 0.088 |
| | 277 | DFC-305 | 1000 | 8.0 | 0.068 |
| | 480 | DFC-306 | 2700 | 10.4 | 0.044 |
| | 12 (DC) | DFC-313 | 27 | 5.3 | 0.446 |
| | 24 (DC) | DFC-310 | 111 | 5.2 | 0.219 |
| 2 Pole Normally Open | 24 | DFC2-307 | 2.8 | 19.1 | 1.990 |
| | 120 | DFC2-301 | 66 | 18.2 | 0.385 |
| | 208 | DFC2-304 | 165 | 21.5 | 0.251 |
| | 240 | DFC2-303 | 260 | 16.2 | 0.174 |
| | 277 | DFC2-305 | 430 | 15.3 | 0.143 |
| | 480 | DFC2-306 | 1100 | 17.3 | 0.091 |
| | 12 (DC) | DFC2-313 | 10 | 14.4 | 1.205 |
| | 24 (DC) | DFC2-310 | 40 | 13.7 | 0.572 |
| 3 Pole Normally Open | 24 | DFC3-307 | 0.7 | 46.0 | 4.900 |
| | 120 | DFC3-301 | 18 | 42.9 | 0.968 |
| | 208 | DFC3-304 | 50 | 35.2 | 0.482 |
| | 240 | DFC3-303 | 69 | 36.2 | 0.425 |
| | 277 | DFC3-305 | 110 | 32.5 | 0.330 |
| | 480 | DFC3-306 | 276 | 40.2 | 0.222 |
| | 12 (DC) | DFC3-313 | 10 | 13.3 | 1.113 |
| | 24 (DC) | DFC3-310 | 40 | 13.2 | 0.552 |

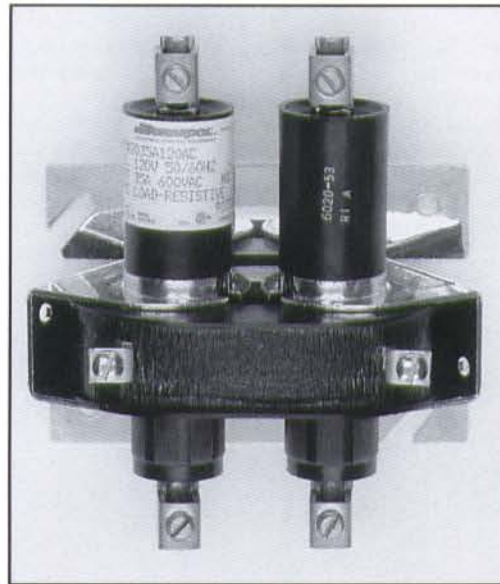
| ELECTRICAL RATINGS | GENERAL PURPOSE 0.7/0.8 UL Power Factor | | | | | | DC | | | Tungsten Lamp/60 Hz | |
|--------------------|--|-----|-----|-----|-----|-----|---------|------|-----|---------------------|-----|
| | Volts | 120 | 208 | 240 | 277 | 480 | 600 | 1-48 | 120 | 240 | 120 |
| SERIES | 60 Hz Amps | | | | | | DC Amps | | | Amps | KW |
| | DFC 150 (Normally Open) | 150 | 140 | 135 | 130 | 120 | 120 | 150 | 70 | 50 | 120 |

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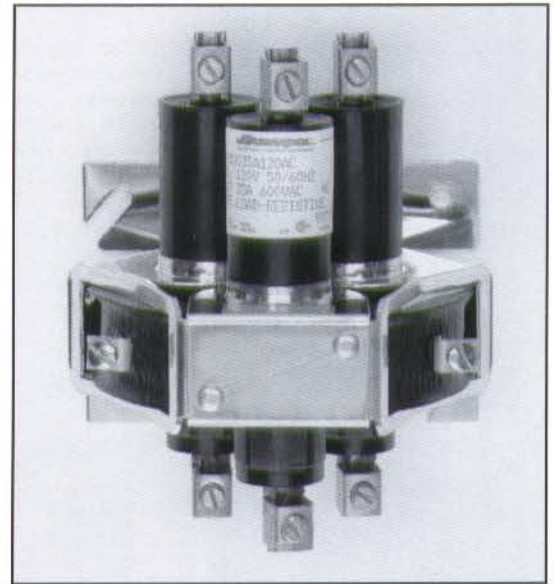
DURAKOOL Gold Label Series 35 & 50 Amps



1 POLE
Weight 1.0 lbs.

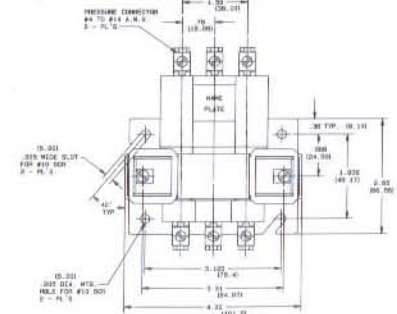
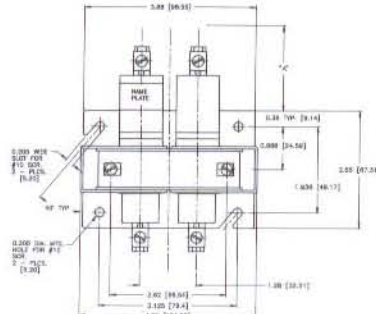
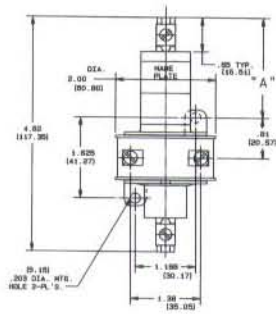


2 POLE
Weight 2.0 lbs.

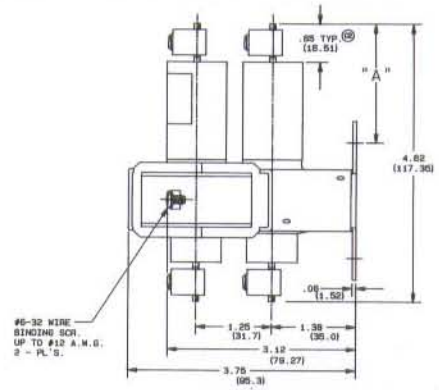
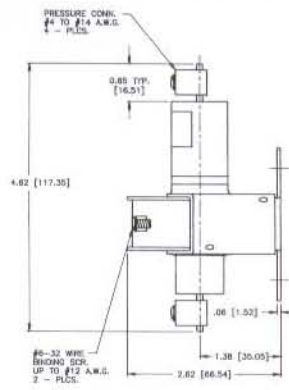
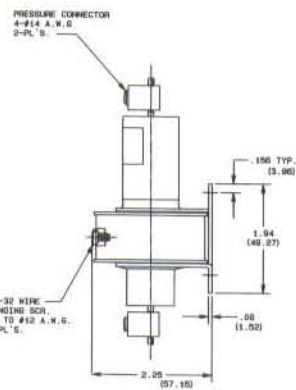


3 POLE
Weight 3.0 lbs.

FRONT VIEW



SIDE VIEW



DIMENSION "A"

| Hz | 1 Pole | | 2 Pole | | 3 Pole | |
|-------|--------|------|--------|------|--------|------|
| | in. | mm | in. | mm | in. | mm |
| DC | 2.00 | 50.8 | 1.84 | 46.7 | 1.84 | 46.7 |
| 50 | 2.00 | 50.8 | 1.84 | 46.7 | 1.84 | 46.7 |
| 50/60 | 2.00 | 50.8 | 1.84 | 46.7 | 1.84 | 46.7 |
| 60 | 2.00 | 50.8 | 1.84 | 46.7 | 1.84 | 46.7 |

DURAKOOL Gold Label Series 35 & 50 Amps

Durakool Gold Label 35 and 50 Amp models (normally open) are economical, special purpose contactors developed to handle resistive loads over millions of switching cycles. They have been used successfully in commercial cooking equipment, plastics machinery, process heating controls, comfort heating and lighting control applications.

As in all Durakool contactors, the liquid contact action of mercury switching is far superior to conventional mechanical contactors, offering significantly longer life. Gold Label contactors operate dependably in harsh industrial/commercial environments without special protection and do not require sophisticated equipment for troubleshooting.

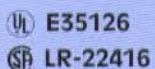
SPECIFICATIONS

(see pages 3-5 for other specifications)

| | | |
|-------------------------------|--|------------------|
| Maximum Time: | Operate 70 ms | Release 90 ms |
| Contact Bounce, Release: | None | |
| Recommended DC Load Polarity: | Top Connector Negative | |
| Load Connectors: | Pressure Connector #4-14 AWG Cu. | |
| Coil Terminals: | #6-32 Wire Binding Screw, Max. #12 AWG Cu. | |
| Breakdown Voltage: | 2000 VRMS/Min. Across Contacts | |

| TYPE/SERIES | Gold Label (35 Amps) | | | | | | | Gold Label (50 Amps) | | | | | | | | | | | |
|------------------------|----------------------|-----------------------|-------------------------|-------------------|-------|-------|-----------|-----------------------|-------------------|-------|-------|-------|--|--|--|--|--|--|--|
| | DESCRIPTION | Resistive Part Number | Motor Rated Part Number | Typical Coil Data | | | | Resistive Part Number | Typical Coil Data | | | | | | | | | | |
| DC Ohms | | | | Watts | Amps | V.A. | DC Ohms | | Watts | Amps | V.A. | | | | | | | | |
| 1 Pole (Normally Open) | Volts | | | | | | | | | | | | | | | | | | |
| | 24 | 1035A24AC | 1M35A24AC | 40 | 2.80 | 0.233 | 5.59 | 1050A24AC | 40 | 2.74 | 0.229 | 5.50 | | | | | | | |
| | 120 | 1035A120AC | 1M35A120AC | 902 | 3.69 | 0.057 | 6.84 | 1050A120AC | 902 | 3.57 | 0.056 | 6.72 | | | | | | | |
| | 208 | 1035A208AC | 1M35A208AC | 3100 | 3.46 | 0.030 | 6.24 | 1050A208AC | 3100 | 3.35 | 0.029 | 6.03 | | | | | | | |
| | 240 | 1035A240AC | 1M35A240AC | 3700 | 3.14 | 0.025 | 6.00 | 1050A240AC | 3700 | 3.02 | 0.024 | 5.76 | | | | | | | |
| | 277 | 1035A277AC | 1M35A277AC | 5410 | 3.42 | 0.022 | 6.09 | 1050A277AC | 5410 | 3.28 | 0.021 | 5.82 | | | | | | | |
| | 480 | 1035A480AC | 1M35A480AC | 15000 | 3.49 | 0.013 | 6.24 | 1050A480AC | 15000 | 3.42 | 0.012 | 5.76 | | | | | | | |
| | 12 (DC) | 1035A12DC | 1M35A12DC | 57 | 2.50 | 0.210 | — | 1050A12DC | 40 | 3.47 | 0.288 | — | | | | | | | |
| 24 (DC) | 1035A24DC | 1M35A24DC | 230 | 2.50 | 0.104 | — | 1050A24DC | 230 | 2.50 | 0.104 | — | | | | | | | | |
| 2 Pole (Normally Open) | 24 | 2035A24AC | 2M35A24AC | 15 | 5.10 | 0.529 | 12.69 | 2050A24AC | 15 | 5.10 | 0.519 | 12.47 | | | | | | | |
| | 120 | 2035A120AC | 2M35A120AC | 350 | 7.10 | 0.130 | 15.60 | 2050A120AC | 350 | 7.00 | 0.129 | 15.48 | | | | | | | |
| | 208 | 2035A208AC | 2M35A208AC | 960 | 7.00 | 0.075 | 15.60 | 2050A208AC | 960 | 6.90 | 0.074 | 15.39 | | | | | | | |
| | 240 | 2035A240AC | 2M35A240AC | 1520 | 5.70 | 0.055 | 13.20 | 2050A240AC | 1520 | 5.50 | 0.055 | 13.20 | | | | | | | |
| | 277 | 2035A277AC | 2M35A277AC | 2300 | 5.70 | 0.045 | 12.47 | 2050A277AC | 2300 | 5.30 | 0.044 | 12.19 | | | | | | | |
| | 480 | 2035A480AC | 2M35A480AC | 5600 | 5.80 | 0.029 | 13.92 | 2050A480AC | 5600 | 5.80 | 0.027 | 12.96 | | | | | | | |
| | 12 (DC) | 2035A12DC | 2M35A12DC | 24 | 6.00 | 0.500 | — | 2050A12DC | 24 | 6.00 | 0.500 | — | | | | | | | |
| | 24 (DC) | 2035A24DC | 2M35A24DC | 90 | 6.40 | 0.266 | — | 2050A24DC | 90 | 6.40 | 0.266 | — | | | | | | | |
| 3 Pole (Normally Open) | 24 | 3035A24AC | 3M35A24AC | 5 | 11.10 | 1.270 | 30.48 | 3050A24AC | 6 | 7.20 | 0.889 | 21.34 | | | | | | | |
| | 120 | 3035A120AC | 3M35A120AC | 135 | 9.20 | 0.220 | 26.40 | 3050A120AC | 135 | 9.10 | 0.219 | 26.28 | | | | | | | |
| | 208 | 3035A208AC | 3M35A208AC | 480 | 8.70 | 0.111 | 23.09 | 3050A208AC | 480 | 9.00 | 0.114 | 23.71 | | | | | | | |
| | 240 | 3035A240AC | 3M35A240AC | 520 | 9.20 | 0.109 | 26.16 | 3050A240AC | 520 | 9.00 | 0.108 | 25.92 | | | | | | | |
| | 277 | 3035A277AC | 3M35A277AC | 830 | 8.10 | 0.081 | 22.44 | 3050A277AC | 830 | 7.80 | 0.079 | 21.88 | | | | | | | |
| | 480 | 3035A480AC | 3M35A480AC | 2100 | 9.40 | 0.055 | 26.40 | 3050A480AC | 2100 | 9.40 | 0.055 | 26.40 | | | | | | | |
| | 12 (DC) | 3035A12DC | 3M35A12DC | 12.8 | 11.20 | 0.938 | — | 3050A12DC | 12.8 | 10.70 | 0.889 | — | | | | | | | |
| | 24 (DC) | 3035A24DC | 3M35A24DC | 51 | 11.30 | 0.470 | — | 3050A24DC | 59.4 | 9.70 | 0.404 | — | | | | | | | |

| ELECTRICAL RATINGS | GENERAL PURPOSE 0.7/0.8 UL Power Factor | | | | | | DC | | | Tungsten Lamp/60 Hz | AC MOTOR LOAD | | | |
|------------------------|--|-----|-----|-----|-----|-----|---------|-----|-----|---------------------|---------------|-----|-----|------|
| | | | | | | | | | | | 3 Phase | | | |
| Volts | 120 | 208 | 240 | 277 | 480 | 600 | 1-48 | 120 | 240 | 120 | | | | |
| SERIES | 60 Hz AC Amps | | | | | | DC Amps | | | Amps | KW | Hp | Hp | Hp |
| GL 35A (Normally Open) | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 17 | 10 | 35 | 4.2 | 3.0 | 7.5 | 10.0 |
| GL 50A (Normally Open) | 35 | 50 | 50 | 50 | 50 | 50 | 50 | 25 | 15 | 50 | 6.0 | | | |



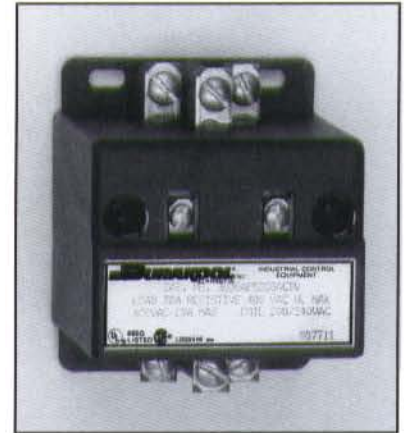
DURAKOOL Series 2030, 3030 30 Amps

These Durakool 2 pole (2030) and 3 pole (3030) contactors (normally open), are designed for resistive loads typically found in heating and processing equipment such as ovens, fryers, and dishwashers. They feature quiet operation and rapid on/off cycling. They are a practical replacement for mechanical contactors, providing a long service life and reliable operation even in hostile environments. They will fit in the same space as most mechanical contactors. Easy to install, the 2030/3030 contactors have a standard DP mounting footprint. The terminal screws all face forward for easy connection of leads to contacts.

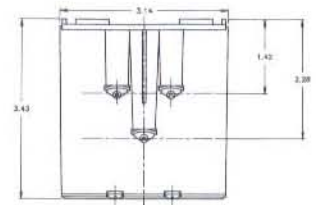
SPECIFICATIONS

(see pages 3-5 for other specifications)

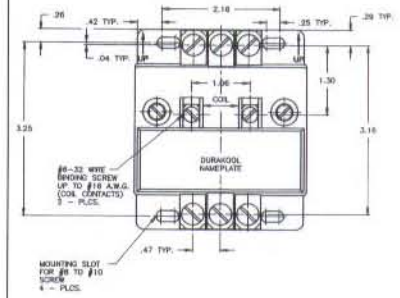
| | | |
|-------------------------------|-------------------------|-------------|
| Maximum Time: | Operate | Release |
| | 50 ms, Max. | 70 ms, Max. |
| Contact Bounce, Release: | None | |
| Recommended DC Load Polarity: | Top Connection Negative | |
| Breakdown Voltage: | | |
| Contact to Ground: | 5000 VRMS/Min. | |
| Weight: | 2.0 lbs. | |



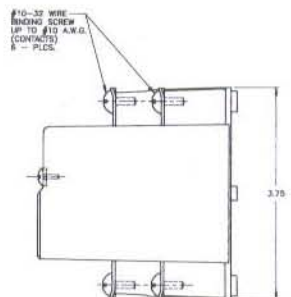
TOP VIEW



FRONT VIEW



SIDE VIEW



TYPE/SERIES

**2030/3030
30 Amps**

DESCRIPTION

**2 POLE
Normally Open**

Volts
24
120
208
240
480
12 (DC)
24 (DC)

| Part Number | DC Ohms | Watts | Amps | V.A. |
|--------------|---------|-------|-------|-------|
| 2030APS24AC | 20 | 4.52 | 0.456 | 10.94 |
| 2030APS120AC | 340 | 6.45 | 0.121 | 14.52 |
| 2030APS208AC | 1251 | 5.48 | 0.055 | 11.44 |
| 2030APS240AC | 1420 | 6.68 | 0.059 | 14.16 |
| 2030APS480AC | 5700 | 6.80 | 0.028 | 13.44 |
| 2030APS12DC | 24.5 | 5.80 | 0.489 | 5.87 |
| 2030APS24DC | 96 | 5.80 | 0.240 | 5.76 |

**3 Pole
Normally Open**

24
120
208

208
240

240
277
480
12 (DC)
24 (DC)

| | | | | |
|----------------|------|------|-------|-------|
| 3030APS24AC | 13.8 | 4.60 | 0.510 | 12.24 |
| 3030APS120AC | 340 | 4.80 | 0.106 | 12.72 |
| 3030APS208AC | 1251 | 4.98 | 0.055 | 11.44 |
| 3030APS208ACDV | 1251 | 4.98 | 0.055 | 11.44 |
| | 1251 | 6.50 | 0.062 | 14.88 |
| 3030APS240AC | 1420 | 4.80 | 0.062 | 12.48 |
| 3030APS277AC | 1730 | 4.70 | 0.044 | 12.19 |
| 3030APS480AC | 5700 | 5.26 | 0.025 | 12.00 |
| 3030APS12DC | 24.5 | 5.80 | 0.489 | 5.87 |
| 3030APS24DC | 96 | 6.00 | 0.250 | 6.00 |

ELECTRICAL RATINGS

**RESISTIVE LOAD
60 Hz Amps**

**DC
Amps**

**Tungsten
120**

SERIES

Volts

| 120 | 208 | 240 | 277 | 480 | 600 |
|-----|-----|-----|-----|-----|-----|
| 30 | 30 | 30 | 30 | 30 | 30 |

| 1-48 |
|------|
| 30 |

| 60 Hz |
|-------|
| 25 |

2030, 3030

UL E35126

SF LR-22416



DURAKOOL Series 2M30, 3M30 30 Amps

These Durakool contactors are especially designed for motor control circuits. They are UL rated for 240 volts, 3-phase motor applications. These 30 Amp contactors are ruggedly constructed to provide reliable, quiet operation over many switching cycles. With the same footprint as a DP mechanical contactor, they are a practical replacement, especially in hostile environments where their hermetic seal makes them immune to dust, dirt, and oil. All terminal screws face forward for easy installation.

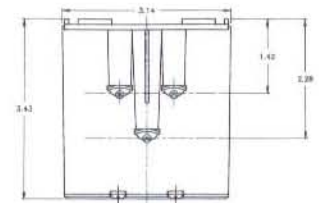
SPECIFICATIONS

(see pages 3-5 for other specifications)

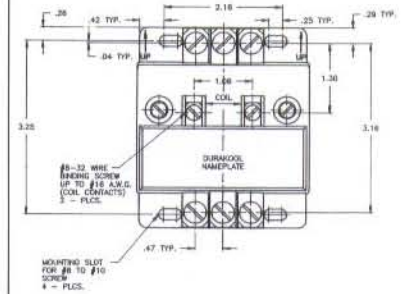
| | | |
|-------------------------------|-----------------------------------|-------------------------------|
| Maximum Time: | Operate 50 ms, Max. | Release 70 ms, Max. |
| Contact Bounce, Release: | None | |
| Recommended DC Load Polarity: | Top Connection Negative | |
| Breakdown Voltage: | Contact to Ground: 5000 VRMS/Min. | |
| Weight: | 2.0 lbs. | |



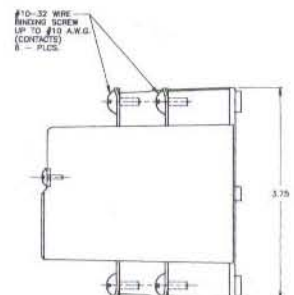
TOP VIEW



FRONT VIEW



SIDE VIEW



| TYPE/SERIES | | 2M30/3M30 30 Amps | | Typical Coil Data | | | |
|-------------------------|-------------|----------------------|---------|-------------------|-------|-------|--|
| DESCRIPTION | | Part Number | DC Ohms | Watts | Amps | V.A. | |
| 2 POLE Normally Open | Volts | | | | | | |
| | 24 | 2M30APS24AC | 20 | 4.52 | 0.456 | 10.94 | |
| | 120 | 2M30APS120AC | 340 | 6.45 | 0.121 | 14.52 | |
| | 208 | 2M30APS208AC | 1251 | 5.48 | 0.055 | 11.44 | |
| | 240 | 2M30APS240AC | 1420 | 6.68 | 0.059 | 14.16 | |
| | 480 | 2M30APS480AC | 5700 | 6.80 | 0.028 | 13.44 | |
| | 12 (DC) | 2M30APS12DC | 24.5 | 5.80 | 0.489 | 5.87 | |
| 24 (DC) | 2M30APS24DC | 96 | 5.80 | 0.240 | 5.76 | | |
| 3 Pole Normally Open | 24 | 3M30APS24AC | 13.8 | 4.60 | 0.510 | 12.24 | |
| | 120 | 3M30APS120AC | 340 | 4.80 | 0.106 | 12.72 | |
| | 208 | 3M30APS208AC | 1251 | 4.98 | 0.055 | 11.44 | |
| | 208 | 3M30APS208ACDV | 1251 | 4.98 | 0.055 | 11.44 | |
| | 240 | | 1251 | 6.50 | 0.062 | 14.88 | |
| | 240 | 3M30APS240AC | 1420 | 4.80 | 0.062 | 12.48 | |
| | 277 | 3M30APS277AC | 1730 | 4.70 | 0.044 | 12.19 | |
| | 480 | 3M30APS480AC | 5700 | 5.26 | 0.025 | 12.00 | |
| | 12 (DC) | 3M30APS12DC | 24.5 | 5.80 | 0.489 | 5.87 | |
| | 24 (DC) | 3M30APS24DC | 96 | 6.00 | 0.250 | 6.00 | |

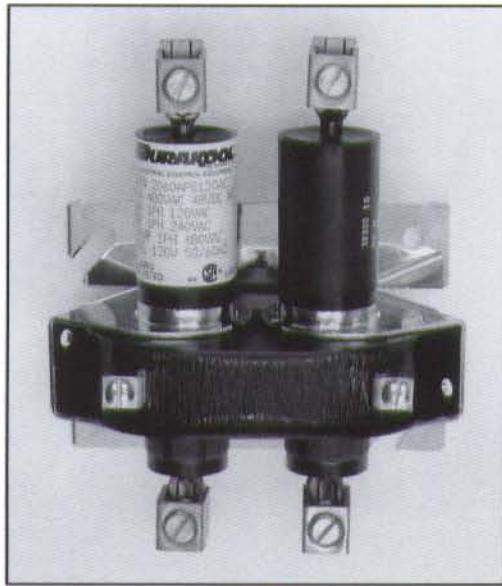
| ELECTRICAL RATINGS | 60 Hz | | | | | DC | |
|------------------------|-------|-----|-----|------|-----|-----|----|
| | Volts | 120 | 208 | 240 | 277 | 480 | 48 |
| Resistive | | 30 | 30 | 30 | 30 | 30 | 30 |
| General Purpose | | 30 | 30 | 30 | 20 | 20 | — |
| Motor Load (Hp) 3-pole | | 1.5 | 1.5 | 3.0 | 3.0 | 3.0 | — |
| Full Load Amps | | — | — | 14.8 | — | — | — |
| Locked Rotor Amps | | — | — | 89.0 | — | — | — |

UL E35126
LR-22416

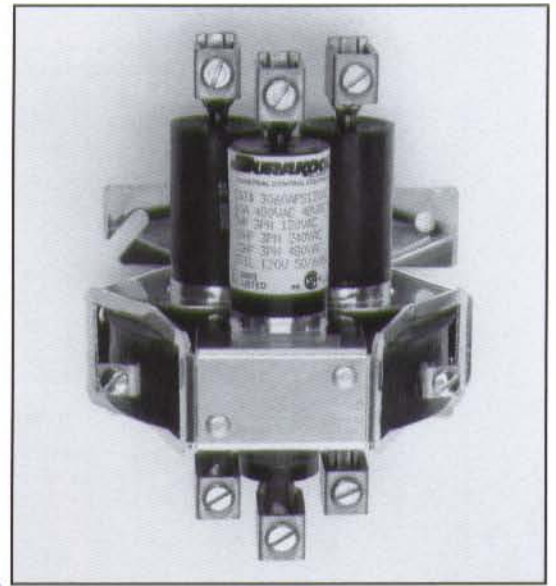
DURAKOOL Series 60APS 60 Amps



1 POLE
Weight 1.0 lbs.

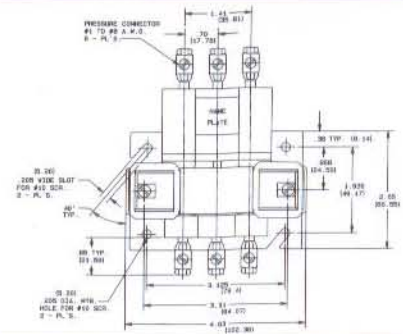
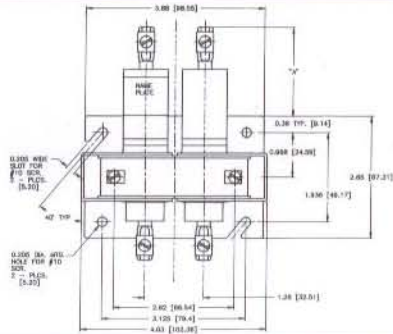
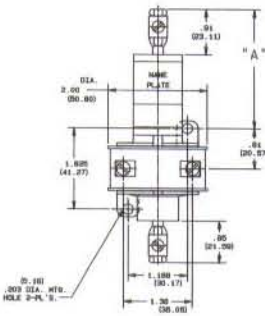


2 POLE
Weight 2.0 lbs.

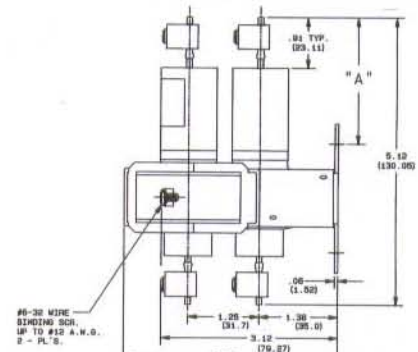
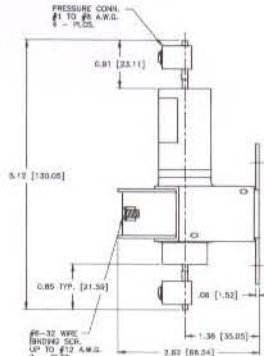
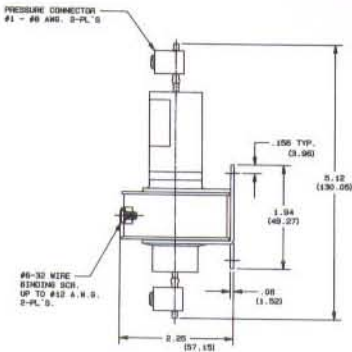


3 POLE
Weight 3.0 lbs.

FRONT VIEW



SIDE VIEW



DIMENSION "A"

| Hz | 1 Pole | | 2 Pole | | 3 Pole | |
|-------|--------|------|--------|------|--------|------|
| | in. | mm | in. | mm | in. | mm |
| DC | 2.32 | 58.9 | 2.17 | 55.1 | 2.17 | 55.1 |
| 50 | 2.41 | 61.2 | 2.26 | 57.4 | 2.26 | 57.4 |
| 50/60 | 2.41 | 61.2 | 2.26 | 57.4 | 2.26 | 57.4 |
| 60 | 2.41 | 61.2 | 2.26 | 57.4 | 2.26 | 57.4 |

DURAKOOL Series 60APS 60 Amps

The Durakool 60 Amp high performance contactor (normally open) is designed for resistive loads typical in industrial ovens, food processing and laboratory equipment, lighting and computer power supplies, plus medical and communications equipment.

The 60 Amp contactor is UL/CSA listed for general purpose, inductive, and tungsten, as well as resistive loads. The contactor features long life, quiet operation, and rapid on/off cycling. Since it is hermetically sealed, it is a practical replacement, especially in hostile environments.



SPECIFICATIONS

(see pages 3-5 for other specifications)

| | | |
|--------------------------------------|-------------------------|----------------|
| Maximum Time: | Operate | Release |
| | 70 ms, Max. | 90 ms, Max. |
| Contact Bounce: | None | |
| Recommended DC Load Polarity: | Top Connection Negative | |
| Breakdown Voltage: | | |
| Contact to Contact: | 2000 VRMS/Min. | |
| Contact to Ground: | 5000 VRMS/Min. | |

| TYPE/SERIES | | 60APS 60 Amps | | | | |
|---------------------------|---------|------------------|-------------------|-------|-------|-------|
| DESCRIPTION | Volts | Part Number | Typical Coil Data | | | |
| | | | DC Ohms | Watts | Amps | V.A. |
| 1 Pole (Normally Open) | 24 | 1060APS24AC | 40 | 2.60 | 0.235 | 5.64 |
| | 120 | 1060APS120AC | 902 | 3.47 | 0.055 | 6.60 |
| | 240 | 1060APS240AC | 3700 | 3.40 | 0.026 | 6.24 |
| | 480 | 1060APS480AC | 15000 | 3.54 | 0.012 | 5.76 |
| | 12 (DC) | 1060APS12DC | 40 | 3.64 | 0.293 | 3.52 |
| | 24 (DC) | 1060APS24DC | 230 | 3.48 | 0.146 | 3.50 |
| 2 Pole (Normally Open) | 24 | 2060APS24AC | 15 | 5.20 | 0.525 | 12.60 |
| | 120 | 2060APS120AC | 350 | 7.46 | 0.133 | 15.96 |
| | 240 | 2060APS240AC | 1520 | 6.18 | 0.056 | 13.44 |
| | 480 | 2060APS480AC | 5600 | 6.47 | 0.027 | 12.96 |
| | 12 (DC) | 2060APS12DC | 24 | 6.10 | 0.506 | 6.07 |
| | 24 (DC) | 2060APS24DC | 90 | 6.00 | 0.253 | 6.07 |
| 3 Pole (Normally Open) | 24 | 3060APS24AC | 4.5 | 3.65 | 0.492 | 11.81 |
| | 120 | 3060APS120AC | 122 | 9.54 | 0.224 | 26.88 |
| | 240 | 3060APS240AC | 470 | 9.47 | 0.110 | 26.40 |
| | 480 | 3060APS480AC | 1900 | 10.12 | 0.055 | 26.40 |
| | 12 (DC) | 3060APS12DC | 12.8 | 10.10 | 0.866 | 10.39 |
| | 24 (DC) | 3060APS24DC | 46 | 11.10 | 0.461 | 11.06 |

| ELECTRICAL RATINGS | 60 Hz | | | | | DC | |
|--------------------|-------|-----|------|------|------|----|-----|
| | 120 | 208 | 240 | 277 | 480 | 48 | 120 |
| Resistive | 60 | 60 | 60 | 60 | 60 | 60 | 30 |
| General Purpose | 60 | 60 | 60 | 60 | 60 | — | — |
| Tungsten (1 Pole) | 60 | 60 | 60 | 60 | 35 | 60 | 30 |
| Motor Load | | | | | | | |
| 1 Phase (Hp) | 3.0 | 3.0 | 5.0 | 5.0 | 7.5 | — | — |
| 3 Phase (Hp) | 5.0 | 5.0 | 10.0 | 10.0 | 15.0 | — | — |

 **E61703**
 **LR-22416**

DURAKOOL High Voltage Contactors (2500-3500 Volts at 10 Amps AC & 4000 Volts at 8 Amps AC)

With 10 Amp ratings and several standard options, Durakool high voltage contactors are a versatile choice for UV curing lamp controls and panel safety switching and other high voltage loads. The 2500 VAC or 3500 VAC rated models, single-pole are made either normally open or normally closed. Terminals come with standard pressure connectors or 5000 VAC rated leads. HV contactors are compact for easy panel mounting, and provide mercury switching dependability.

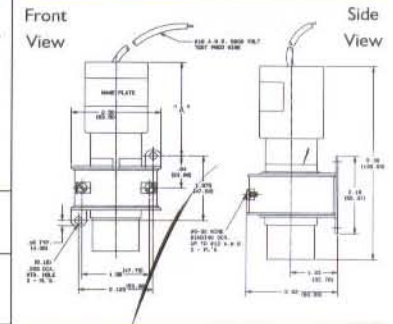
SPECIFICATIONS

(see pages 3-5 for other specifications)

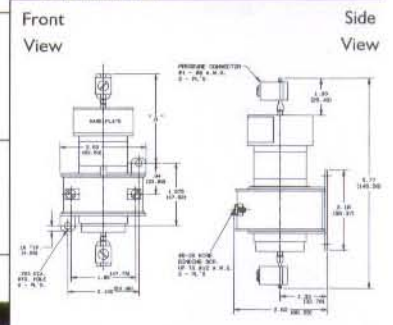
| | | |
|--------------------------------------|--|----------------|
| Maximum Time: | Operate | Release |
| Normally Open | 90 ms, Max. | 140 ms, Max. |
| Normally Closed | 200 ms, Max. | 100 ms, Max. |
| Contact Bounce, Release: | Allowed on normally open models | |
| Recommended DC Load Polarity: | Top Connection Negative | |
| Load Connectors: | Pressure Connector #1-18 AWG Cu. | |
| Coil Terminals: | #6-32 Wire Binding Screw, Max. #12 AWG Cu. | |
| Breakdown Voltage: | 5000 VRMS/Min. Across Contacts | |
| Weight: | 1.5 lbs. | |



BLACK LEAD



TERMINAL



| TYPE/SERIES | | Normally Open | | | | |
|-------------------------------|---------|---------------------|-------|------------------------------|-------|-------|
| DESCRIPTION | | Part Number | Hz | Typical Coil Data DC Ohms | Watts | Amps |
| 2500 Terminal | 120 | CFH-302 | 50/60 | 180 | 9.0 | 0.174 |
| | 240 | CFH-303 | 50/60 | 680 | 9.3 | 0.089 |
| 2500 Black Leads | 120 | CFH-216 | 50/60 | 180 | 9.0 | 0.174 |
| | 240 | CFH-215 | 50/60 | 680 | 9.3 | 0.089 |
| | 24 (DC) | CFH-226 | — | 111 | 5.2 | 0.217 |
| | 48 (DC) | CFH-238 | — | 440 | 4.8 | 0.100 |
| 3500 Terminal & 4000 Terminal | 120 | CFCH-397 & CFCH-418 | 50/60 | 180 | 9.0 | 0.174 |
| | 240 | CFCH-387 & CFCH-419 | 50/60 | 680 | 9.3 | 0.089 |
| | 24 (DC) | CFCH-396 & CFCH-420 | — | 111 | 5.2 | 0.217 |
| | | Normally Closed | | | | |
| 2500 Terminal | 120 | CBH-302 | 60 | 180 | 8.5 | 0.179 |
| | 120 | CBH-305 | 50 | 180 | 9.8 | 0.196 |
| | 240 | CBH-303 | 60 | 680 | 9.3 | 0.093 |
| 2500 Black Leads | 120 | CBH-225 | 50 | 180 | 9.8 | 0.196 |
| | 120 | CBH-218 | 60 | 180 | 8.5 | 0.179 |
| | 240 | CBH-222 | 50 | 680 | 9.3 | 0.089 |
| | 240 | CBH-215 | 60 | 680 | 9.3 | 0.093 |
| | 24 (DC) | CBH-221 | 60 | 111 | 5.2 | 0.217 |
| 3500 Terminal | 120 | CBCH-333 | 50/60 | 180 | 8.5 | 0.179 |
| | 210 | CBCH-337 | 50/60 | 600 | 7.4 | 0.086 |
| | 240 | CBCH-335 | 60 | 680 | 9.3 | 0.093 |
| | 48 (DC) | CBCH-339 | — | 440 | 4.8 | 0.100 |

DIMENSION "A"

| Hz | CFH, CFCH w/leads or terminals | | CBH, CBCH with terminals | | CBH, CBCH with leads | |
|-------|--------------------------------|------|--------------------------|-------|----------------------|-------|
| | in. | mm | in. | mm | in. | mm |
| DC | 2.39 | 60.7 | 2.04 | 57.82 | 2.10 | 53.34 |
| 50 | 2.62 | 66.5 | 2.02 | 51.31 | 2.08 | 52.83 |
| 50/60 | 2.66 | 67.5 | 2.02 | 51.31 | 2.08 | 52.83 |
| 60 | 2.66 | 67.6 | 1.92 | 43.77 | 1.98 | 50.29 |

DIMENSION "B" (Overall Length)

| Hz | CFH,CFCH | | CBH,CBCH | |
|-------------|----------|-------|----------|-------|
| | in. | mm | in. | mm |
| w/terminals | 5.77 | 146.6 | 5.98 | 151.9 |
| w/leads | 5.38 | 136.7 | 5.75 | 146.1 |

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