

## Product Selection

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**C306 Thermal Overload Relays****C306DN3B****C306GN3B****Contactors**

NEMA Size	Maximum Ampere Rating	Number of Poles	Open Type Catalog Number	NEMA 1 Enclosed Catalog Number
00, 0	32 <sup>②</sup>	3	<b>C306DN3B</b>	<b>C306DG3B</b>
1, 2	75 <sup>②</sup>	3	<b>C306GN3B</b>	<b>C306GG3B</b>
3	105 <sup>③</sup>	3	<b>C306KN3</b>	—
4	144 <sup>③</sup>	3	<b>C306NN3</b>	—
5–8 <sup>①</sup>	—	—	—	—

**C306DT3B****C306GT3B****Standalone Applications**

NEMA Size	Maximum Ampere Rating	Number of Poles	Open Type Catalog Number
00, 0, 1 <sup>④</sup>	32	3	<b>C306DT3B</b>
1 <sup>④</sup>	75	3	<b>C306GT3B</b>
3 <sup>⑤</sup>	105	3	<b>C306KN3</b>
4 <sup>⑤</sup>	144	3	<b>C306NN3</b>
5–8 <sup>⑥</sup>	—	—	—

**Notes**

- ① NEMA Sizes 5–8 use the 32A overload in conjunction with CTs.
- ② Series B overload relays have load lugs built into relay base and will only accept Series B heater packs. These relays can be directly attached to contactor or they can be DIN rail or panel mounted using adapter on **Page V5-T2-44**.
- ③ These relays can be panel mounted only.
- ④ Overload relay assembled with mounting adapter for DIN rail or panel mount.
- ⑤ Panel mount only.
- ⑥ NEMA Sizes 5–8 use the 32A overload in conjunction with CTs.

## Accessories

### DIN Rail and Panel Mounting Adapter

These adapters are required when component overload relays are to be separately mounted. The terminal base

adapter includes line terminals and connects with the overload relays on **Page V5-T2-40**.

#### C306TB1



### DIN Rail and Panel Mounting Adapter

Description	Catalog Number
For 32A overload relay	<b>C306TB1</b>
For 75A overload relay	<b>C306TB2B</b> ①

### Locking Cover for Overload Relay—C306 Only

Snap-on transparent or opaque plastic panel for covering access port to the overload relay trip setting

dial—helps prevent accidental or unauthorized changes to trip and reset setting.

#### Overload Relay Cover



### Locking Cover for Overload Relay—C306 Only

Description	Min. Order Qty. (Std. Pkg.)	Catalog Number
Clear cover, no accessibility	50	<b>C320PC3</b>
Gray cover, no accessibility with auto only nib	50	<b>C320PC4</b>
Gray cover, no accessibility with manual only nib	50	<b>C320PC5</b>
Gray cover with FLA dial accessibility, A, B, C, D positions and auto only nib	50	<b>C320PC6</b>
Gray cover with FLA dial accessibility, A, B, C, D positions and manual only nib	50	<b>C320PC7</b>

## Modifications

### C306 Thermal Overload Relays with Mounting Adapter

Consists of a thermal overload relay mounted to a terminal base adapter—

permits fast and easy installation.

### C306 Thermal Overload Relays with Mounting Adapter

Description	Catalog Number
C306DN3B + C306TB1	<b>C306DT3B</b>
C306GN3B + C306TB2B	<b>C306GT3B</b>

## Replacement Parts

### Heater Pack Replacement

The heater pack series is determined by the 6th character of the catalog number. Series A or prior heater packs (identified by either "A" or "-" as the 6th character) have built-in load lugs. Series B or later heater

packs do not (load lugs are on overload relay). Replacement of Series A or earlier heater packs with Series B or later heater packs, requires the one time addition of Lug Adapter Kit C306KAL1-3B to the Series A1 overload relay.

### Superseded Series A Heater Pack



### Series B Heater Pack



## Heater Pack Replacement Requirements

Existing Heater Pack Catalog Numbers	Replacement Product Required
<b>H2001-3–H2013-3</b> <b>H2001A-3–H2013A-3</b>	Lug adapter kit C306KAL1-3B and Series B heater pack
<b>H2001B-3–H2013B-3</b>	Series B heater pack
<b>H2014-3</b> <b>H2014A-3</b>	Replace with lug adapter kit C306KAL1-3B and Series B heater pack
<b>H2014B-3</b>	Series B heater pack
<b>H2015-3–H2017-3</b>	Replace with heater pack chosen from table below
<b>H2015A-3–H2017A-3</b>	Replace with lug adapter kit C306KAL1-3B and Series B heater pack
<b>H2015B-3–H2017B-3</b>	Series B heater pack

## Heater Pack Ratings

### Motor Full Load Ampere Rating

Dial Position	A	B	C	D	Order Heater Pack Catalog Number
	29.0	32.5	36.0	39.5	<b>H2015B-3</b>
	39.6	44.3	49.1	53.8	<b>H2016B-3</b>
	53.9	60.4	66.8	74.9	<b>H2017B-3</b>

### Overload Relay Lug Adapter Kit

### Superseded 32A Series A Overload Relay—C306DN3



### Superseded 75A Series A Overload Relay—C306GN3



These kits are used in conjunction with Catalog Numbers H2001B–H2014B or H2101B–H2114B heater packs as a means of utilizing these Series B heater packs in Catalog Numbers C306DN3 and C306GN3 Series A1 overload relays. The kit consists of three lug

adapters and installation instructions. When installing Series B heater packs plus lug adapters in Series A overload relays, refer to heater pack FLA adjustment tables originally supplied with equipment (also supplied with kit).

#### C306KAL1



### Overload Relay Lug

Description	Catalog Number
Series A1 overload relay lug adapter kit	<b>C306KAL1-3B</b>

### Overload Relay Replacement—Series A Only

When replacing a Catalog Number C306DN3 (Part No. 10-6044) or C306GN3 (10-6319) Series A overload relay

on a starter, order a Series B overload relay and Series B heater packs.

#### Note

① This Series B adapter will accept Series A or B overload relays (C306GN3 or C306GN3B), C306TB2 can only be used with C306GN3.

**Wire (75°C) Sizes—AWG or kcmil—NEMA Sizes 00–2, IEC A–K—Open****Power Terminals—Line**

IEC Size	NEMA Size	Cu Only
A, B, C	00	12–16 stranded, 12–14 solid
D, E, F	0	8–16 stranded, 10–14 solid
	1	8–14 stranded or solid
G, H, J, K	2	3–14 (upper) and/or 6–14 (lower) stranded or solid ①

**Power Terminals—Load—Cu Only (Stranded or Solid)**

Catalog Number	Terminal	Wire Size
<b>C306DN3B</b>	32A	14–6 AWG
<b>C306GN3B</b>	75A	14–2 AWG

**Control Terminals—Cu Only**

12–16 AWG stranded, 12–14 AWG solid

**Wire (75°C) Sizes—AWG or kcmil—NEMA Sizes 3–8, IEC L–N—Open****Power Terminals—Line and Load**

IEC Size	NEMA Size	Wire Size
L	3	1/0–14 Cu/Al
M	—	14–2/0 Cu/Al
N	—	3/0–8 Cu/Al
—	4	Open—3/0–8 Cu Enclosed—250 kcmil—6 Cu/Al
—	5	750 kcmil—2 or (2) 250 kcmil—3/0 Cu/Al
	6–7	(2) 750 kcmil—3/0 Cu/Al
	8	(2) 750 kcmil—1/0 Cu/Al

**Control Terminals—Cu Only**

12–16 AWG stranded, 12–14 AWG solid

**Power Terminal Torque Line and Load Terminals**

Catalog Number	Terminal	Torque in lb-in
<b>C306DT3B</b>	32A	20
<b>C306GT3B</b>	75A	35 (14–10 AWG) 40 (8 AWG) 45 (6–4 AWG) 50 (3–2 AWG)
<b>C306KN3</b> (socket head screw)	105A	120 (3/16) 200 (1/4) 250 (5/16)
<b>C306NN3</b> (socket head screw)	144A	120 (3/16) 200 (1/4) 250 (5/16)
<b>C306NN3</b> (slotted head screw)		35 (14–10 AWG) 40 (8 AWG) 45 (6–4 AWG) 50 (3–1/0 AWG)

**Plugging and Jogging Service Horsepower Ratings ②**

NEMA Size	200V	230V	460V	575V
00	—	1/2	1/2	1/2
0	1-1/2	1-1/2	2	2
1	3	3	5	5
2	7-1/2	10	15	15
3	15	20	30	30
4	25	30	60	60
5	60	75	150	150
6	125	150	300	300

**Overload Relay UL/CSA Contact Ratings Control Circuit ③**

AC Volts	120V	240V	480V	600V
<b>NC Contact B600</b>				
Make and break amperes	30	15	7.5	6
Break amperes	3	1.5	0.75	0.6
Continuous amperes	5	5	5	5
<b>NO Contact C600</b>				
Make and break amperes	15	7.5	3.375	3
Break amperes	1.5	0.75	0.375	0.3
Continuous amperes	2.5	2.5	2.5	2.5

**Notes**

- ① Two compartment box lug.  
 ② Maximum horsepower where operation is interrupted more than 5 times per minute or more than 10 times in a 10 minute period. NEMA standard ICS 2-1993 table 2-4-3.  
 ③ DC ratings cover Freedom Series coils only.