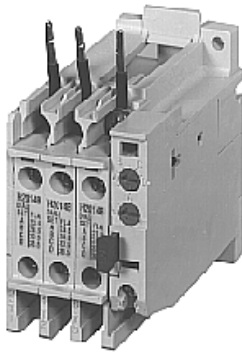


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Note: For more information, see CA03402001E.



32 Ampere Overload
Cat. No. C306DN3B

Product Description

C306 Overload Relays are designed for use with CE or CN non-reversing and reversing contactors. Four sizes are available for overload protection up to 144 amperes.

Features

- Selectable manual or automatic reset operation.
- Interchangeable heater packs adjustable $\pm 24\%$ to match motor FLA and calibrated for use with 1.0 and 1.15 service factor motors.
 - Heater packs for 32 ampere overload relay will mount in 75 ampere overload relay — useful in derating applications such as jogging.
- Class 10 or 20 heater packs.
- Load lugs built into relay base.
- Bimetallic, ambient compensated operated. Trip free mechanism.
- Electrically isolated NO-NC contacts (pull RESET button to test).
- Overload trip indication.
- Shrouded or “fingerproof” terminals to reduce possibility of electrical shock.
- Meets UL508 single-phasing requirements.

Factory Modifications



Cat. No. C306TB1

Table 34-339. C306 Thermal Overload Relays with Mounting Adapter

Consists of a thermal overload relay mounted to a terminal base adapter — permits fast and easy installation.		
Description	Catalog Number	Price U.S. \$
C306DN3B + C306TB1 C306GN3B + C306TB2B	C306DT3B C306GT3B	

Accessories

Table 34-340. 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 listed in Table 34-339 .		
Description	Catalog Number	Price U.S. \$
For 32 Ampere Overload Relay For 75 Ampere Overload Relay	C306TB1 C306TB2B ①	

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

Relays — Interchangeable Heater Overload



Table 34-341. 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.			
Description	Min. Order Quantity (Std. Pkg.)	Catalog Number	Price U.S. \$
Clear cover, no accessibility	50	C320PC3	
Gray cover, no accessibility, with Auto only nib	50	C320PC4	
Gray cover, no accessibility, with Manual only nib	50	C320PC5	
Gray cover with FLA dial accessibility, A, B, C, D positions and Auto only nib	50	C320PC6	
Gray cover with FLA dial accessibility, A, B, C, D positions and Manual only nib	50	C320PC7	

Overload Lug Adapter Kit



**Cat. No. C306KAL1-3
Overload Relay Lug
Adapter Kit**

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 3 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).

Table 34-342. Product Selection

Description	Catalog Number	Price U.S. \$
Series “A1” Overload Relay Lug Adapter Kit	C306KAL1-3B	

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**

Table 34-343. Heater Pack Replacement Requirements

Existing Heater Pack Catalog Numbers	Replacement Product Required
H2001-3 – H2013-3 H2001A-3 – H2013A-3	Lug Adapter Kit C3606KAL1-3B and Series B Heater Pack
H2001B-3 – H2013B-3	Series B Heater Pack
H2014-3 H2014A-3	When inventory is exhausted, replace with Lug Adapter Kit C3606KAL1-3B and Series B Heater Pack
H2014B-3	Series B Heater Pack
H2015-3 – H2017-3	When inventory is exhausted, replace with heater pack chosen from Table 34-346
H2015A-3 – H2017A-3	When inventory is exhausted, replace with Lug Adapter Kit C3606KAL1-3B and Series B Heater Pack
H2015B-3 – H2017B-3	Series B Heater Pack

Table 34-344. Heater Pack Ratings

Motor Full Load Ampere Rating				Order Heater Pack Catalog Number	Price U.S. \$
Dial Position					
A	B	C	D		
29.0	32.5	36.0	39.5	H2015A-3	
39.6	44.3	49.1	53.8	H2016A-3	
53.9	60.4	66.8	74.9	H2017A-3	

Overload Relay Replacement — Series “A” Only

When replacing a Catalog Number C306DN3 (Part Number 10-6044) or C306GN3 (10-6319) Series “A” overload relay on a starter, order a Series “B” overload relay and Series “B” heater packs.



**Superseded 32 Ampere
Series “A” Overload Relay
Cat. No. C306DN3**

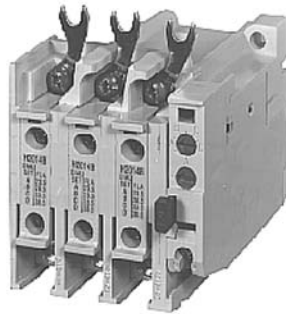


**Superseded 75 Ampere
Series “A” Overload Relay
Cat. No. C306GN3**

Product Selection



32A Overload
Cat. No. C306DN3B



75A Overload
Cat. No. C306GN3B

Table 34-345. C306 Thermal Overload Relays

For Use with Freedom Series Contactors		Maximum Ampere Rating	Number of Poles	Open Type		Open Type with Adapter for DIN Rail or Panel Mount		NEMA 1 Enclosed	
NEMA	IEC			Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$
00, 0	A - F	32 ②	3	C306DN3B		C306DT3B		C306DG3B	
1, 2	G - K	75 ②	3	C306GN3B		C306GT3B		C306GG3B	
3	L - M	105 ③	3	C306KN3		—		—	
4	N	144 ③	3	C306NN3		—		—	
5 - 8 ①	—	—	—	—		—		—	

- ① NEMA Sizes 5 - 8 use the 32 ampere 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 mounted using adapter on **Page 34-273**.
- ③ These relays can be panel mounted only.

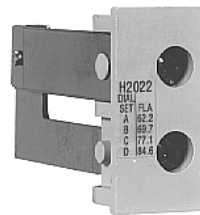
Heater Pack Selection



Heater Pack
H2001B - H2017B



Heater Pack
H2101B - H2117B



Heater Pack
H2018 - H2024

Heater packs H2001B to H2017B and H2101B to H2117B are to be used only with Series B overload relays Catalog Numbers C306DN3B (Part No. 10-7016) and C306GN3B (Part No. 10-7020). The load lugs are built into the overload relay base to allow load wiring prior to heater pack installation. The previous heater design had integral load lugs. The Series B heater packs are electrically equivalent to the previous heater design. Heaters H2018-3 to H2024-3 have not changed.

Table 34-346. Starters with Series B Overload Relays

NEMA — AN Type		IEC — AE Type	
Size	Series	Size	Series
00 - 0	C	A - F	C
1 - 2	B	G - K	B
5	B		
6	C		
7 - 8	B		

Note: The series of a starter is the last digit of the listed Catalog Number. EXAMPLE: AE16DN0AB.

Relays — Interchangeable Heater Overload

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Table 34-347. Standard Trip — Class 20

Overload Relay Size	Motor Full Load Ampere Rating				Catalog Number (Includes 3 Heater Packs)	Price U.S. \$
	Dial Position					
	A	B	C	D		

For Use with NEMA Sizes 00 – 0 Series C, NEMA Sizes 1 – 2 Series B; IEC Sizes A – F Series C, IEC Sizes G – K Series B

32A or 75A	.254	.306	.359	.411	H2001B-3	
	.375	.452	.530	.607	H2002B-3	
	.560	.676	.791	.907	H2003B-3	
	.814	.983	1.15	1.32	H2004B-3	
	1.20	1.45	1.71	1.96	H2005B-3	
	1.79	2.16	2.53	2.90	H2006B-3	
	2.15	2.60	3.04	3.49	H2007B-3	
	3.23	3.90	4.56	5.23	H2008B-3	
	4.55	5.50	6.45	7.40	H2009B-3	
	6.75	8.17	9.58	11.0	H2010B-3	
9.14	10.8	12.4	14.0	H2011B-3		
14.0	16.9	19.9	22.8	H2012B-3		
18.7	22.7	26.7	30.7	H2013B-3		
23.5	28.5	33.5	38.5	H2014B-3		

For Use with NEMA Size 2, IEC Sizes G – K Only — Series B

75A	29.0	34.0	39.1	44.1	H2015B-3	
	39.6	45.5	51.5	57.4	H2016B-3	
	53.9	60.9	67.9	74.9	H2017B-3	

For Use with NEMA Sizes 3 – 4, IEC Sizes L – N Only — Series A

105A or 144A	8.0	9.2	10.3	11.5	H2025-3	
	11.4	12.8	14.3	15.7	H2026-3	
	14.3	15.7	17.4	19.0	H2027-3	
	18.0	20.2	22.3	24.5	H2018-3	
	24.6	27.6	30.5	33.4	H2019-3	
	33.5	37.5	41.5	45.6	H2020-3	
	45.7	51.2	56.7	62.1	H2021-3	
	62.2	69.7	77.1	84.6	H2022-3	
	84.7	95.0	105.0	115.0	H2023-3	
	106.0	118.0	131.0	144.0	H2024-3	

For Use with Size 5 Starters — Series B and IEC P, R and S with 300/5 CT

32A ①	49	59	69	79	H2004B-3	
	72	87	103	118	H2005B-3	
	107	130	152	174	H2006B-3	
	129	156	182	209	H2007B-3	
	194	234	274	—	H2008B-3	

For Use with Size 6 Starters Only — Series B and IEC T – V with 600/5 CT

32A ①	144	174	205	235	H2005B-3	
	215	259	304	348	H2006B-3	
	258	312	365	419	H2007B-3	
	388	468	547	627	H2008B-3	

For Use with Size 7 Starters Only — Series B and IEC W – X with 1000/5 CT

32A ①	163	197	230	264	H2004B-3	
	240	290	342	392	H2005B-3	
	358	432	506	580	H2006B-3	
	430	520	608	698	H2007B-3	
	646	780	912	—	H2008B-3	

For Use with Size 8 Starters Only — Series B and IEC Z with 1500/5 CT

32A ①	244	295	345	396	H2004B-3	
	360	435	513	588	H2005B-3	
	537	648	759	870	H2006B-3	
	645	780	912	1047	H2007B-3	
	969	1170	1368	—	H2008B-3	

① Sizes 5 – 8 and IEC P – Z use the 32A overload relay with current transformers.

Table 34-348. Fast Trip — Class 10

Overload Relay Size	Motor Full Load Ampere Rating				Catalog Number (Includes 3 Heater Packs)	Price U.S. \$
	Dial Position					
	A	B	C	D		

For Use with NEMA Sizes 00 – 0 Series C, NEMA Sizes 1 – 2 Series B; IEC Sizes A – F Series C, IEC Sizes G – K Series B

32A or 75A	.260	.313	.367	.420	H2101B-3	
	.384	.464	.543	.623	H2102B-3	
	.570	.688	.806	.924	H2103B-3	
	.846	1.02	1.20	1.37	H2104B-3	
	1.28	1.55	1.83	2.10	H2105B-3	
	1.92	2.33	2.74	3.15	H2106B-3	
	2.30	2.79	3.28	3.77	H2107B-3	
	3.38	4.10	4.82	5.54	H2108B-3	
	4.96	6.03	7.09	8.16	H2109B-3	
	7.07	8.58	10.1	11.6	H2110B-3	
9.60	11.2	12.8	14.4	H2111B-3		
14.4	17.5	20.7	23.8	H2112B-3		
18.7	21.8	25.0	28.1	H2113B-3		
23.5	27.3	31.0	34.8	H2114B-3		

For Use with NEMA Size 2, IEC Sizes G – K Only — Series B

75A	28.3	32.6	37.0	41.3	H2115B-3	
	36.6	42.3	48.1	53.8	H2116B-3	
	53.8	60.8	67.9	74.9	H2117B-3	

For Use with Size 5 Starters Only — Series B and IEC P, R and S with 300/5 CT

32A ②	51	61	72	82	H2104B-3	
	77	93	110	126	H2105B-3	
	115	140	164	189	H2106B-3	
	138	167	197	226	H2107B-3	
	203	246	289	—	H2108B-3	

For Use with Size 6 Starters Only — Series B and IEC T – V with 600/5 CT

32A ②	154	186	220	252	H2105B-3	
	230	280	329	378	H2106B-3	
	276	335	394	452	H2107B-3	
	406	492	578	—	H2108B-3	

For Use with Size 7 Starters Only — Series B and IEC W – X with 1000/5 CT

32A ②	169	204	240	274	H2104B-3	
	256	310	366	420	H2105B-3	
	384	466	543	630	H2106B-3	
	460	558	656	754	H2107B-3	
	676	820	—	—	H2108B-3	

For Use with Size 8 Starters Only — Series B and IEC Z with 1500/5 CT

32A ②	254	306	360	411	H2104B-3	
	384	465	549	630	H2105B-3	
	576	699	822	945	H2106B-3	
	690	837	984	1131	H2107B-3	
	1014	1230	—	—	H2108B-3	

② Sizes 5 – 8 and IEC P – Z use the 32A overload relay with current transformers.

Note: Heater packs are shipped 3 to a carton. Catalog Numbers are for 3 heater packs.