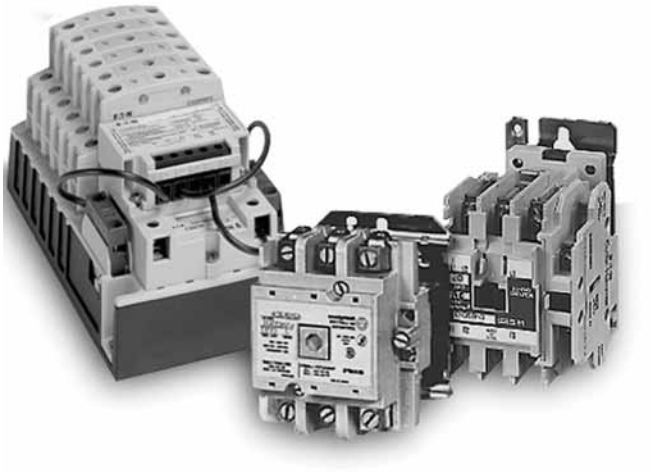
Lighting Contactors-Open Control



Contents

Product Overview

C30CN Mechanically and Electrically Held

Electrically and Mechanically Held C30CN Lighting Contactor by Eaton Electrical delivers unprecedented versatility in application, simplicity in configuration, and performance in operation. With a revolutionary design, rugged construction and expansive feature set, the C30CN is the right solution for effectively controlling tungsten (incandescent filament), ballast (fluorescent and mercury arc), High Intensity Discharge (HID), and non-motor AC resistive loads.

Application Description

Magnetically Latched—A202

Used in applications where it is critical that the contactor will not switch to an off position during control power failure.

30–200A contactors use an electrically energized and de-energized permanent magnet, while the 300 and 400A contactors use a mechanical latch to hold contacts closed during the operation (no continuous control current).

Electrically Held CN35

Use in applications where it is not critical that contacts stay closed with loss of control power.

- Control power is applied continuously during operation
- 10–400A, 600 volt maximum rating
- 12 poles maximum for 20 and 30A devices

C30CNM Mechanically and Electrically Held

Contents

C30CN Mechanically and Electrically Held

Product Description

The C30CNM 30A Mechanically Held Lighting Contactors from Eaton's Electrical Sector are designed for industrial, commercial and outdoor lighting applications where efficient control is required. The mechanically held operation ensures that the contactor will not switch to OFF during control power failure. It also ensures the removal of coil from the circuit for noise-free operation and the elimination of all coil losses after the contactor is latched. The control module microprocessor validates the control signal before operation, so it will not respond to momentary voltage spikes of noise. The operation command has a built-in 0.4 second delay to avoid multiple short-term commands that can cause contact fatigue or failure. Also, the feedback loop prevents the contactor from getting out of sequence with switches, even after power failures.

Application Description

The mechanically held lighting contactor provides effective control in applications such as office buildings, industrial plants, hospitals, stadiums, airports, and so on.

They are ideal for applications that require quiet, energy-efficient operation.

Designed to handle different load types:

- Tungsten (incandescent filament)
- Ballast (fluorescent and mercury arc)
- High intensity discharge (HID)
- Non-motor AC resistive
- Single- and three-phase motor ratings

Operation

Three-wire control is the choice for use with momentary devices allowing operation from multiple locations. A momentary pulse of energy operates the contactor while a second pulse on an alternate leg returns the contactor to its original state.

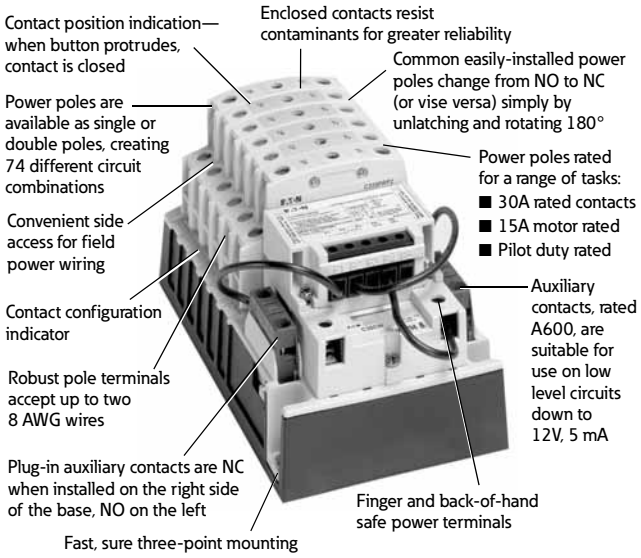
Two-wire control is the choice for single output automatic operation or for operation from single-pole devices. When voltage is applied to the input terminals the contactor is latched into position (coil is removed from the circuit while control voltage is continuously supplied). When control voltage is removed, the latch is disengaged and the contactor is returned to its original state.

Features

See figure below.

- 30A power pole rating
- Up to 12 poles maximum
- Power poles latch easily onto the base, and designating them as NO or NC is a simple matter of left or right positioning. Additional poles, either NO or NC, may be easily added at any time
- Low magnetic noise results in quiet operation
- Low input VA permits long wire runs
- Come in a wide range of input voltages and with coils from 24 Vac to 277 Vac and 12 Vac to 24 Vdc

C30CNM Features



Standards and Certifications

- UL listed File E1491, UL Category Code/ Guide NLDX/NLDX7
- cUL
- CE
- Designed and built to NEMA ICS-2 Standards

Listed Listed

Instructional Leaflets

50765 C30CN Lighting Contactor Series

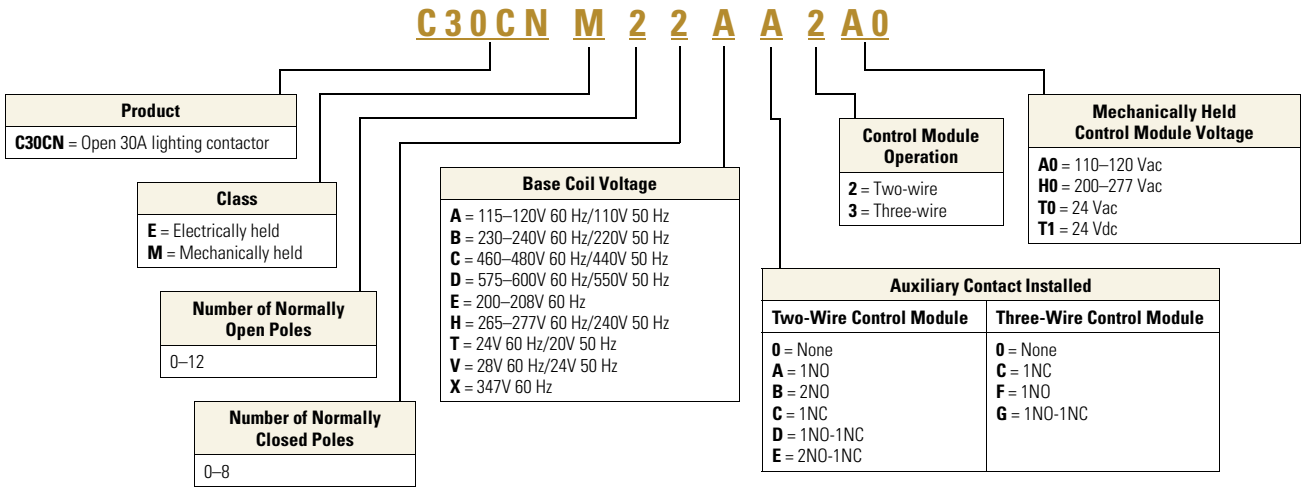
50766 Coil Kit for C30CN Lighting Contactors

50767 Power Pole Kit for C30CN Lighting Contactors

50768 Control Module Kit for C30CN Lighting Contactors

Catalog Number Selection

Type C30CN Lighting Contactors



Sample Catalog Number:	C	3	0	C	N	M	2	2	A	A	2	A	0
Digit Position:	1	2	3	4	5	6	7	8	9	10	11	12	13

Components

Electrically Held Base Contactor

The C30CNE20_0 Electrically Held Base Contactor contains a 2NO power pole as standard and will allow the addition of power poles to build an electrically held contactor up to 12 poles maximum. A mechanically held module kit can also be added to convert the electrically held contactor into a mechanically held contactor in the field.

Electrically Held Base Contactor

Electrically Held Base Contactor

Power Poles	Catalog Number ①
2NO	**C30CNE20_0**

Electrically Held Lighting Contactors ②

Number of Poles	NO	NC	Catalog Number
2	2	0	**C30CNE20_0**
	1	1	**C30CNE11_0**
	0	2	**C30CNE02_0**
4	4	0	**C30CNE40_0**
	2	2	**C30CNE22_0**
	0	4	**C30CNE04_0**
6	6	0	**C30CNE60_0**
8	8	0	**C30CNE80_0**
	4	4	**C30CNE44_0**
	0	8	**C30CNE08_0**

Coil Base Voltage (Digit 8)

Voltage (Digit 8)	Code Suffix
115–120V 60 Hz/110V 50 Hz	**A**
230–240V 60 Hz/220V 50 Hz	**B**
460–480V 60 Hz/440V 50 Hz	**C**
575–600V 60 Hz/550V 50 Hz	**D**
200–208V 60 Hz	**E**
265–277V 60 Hz/240V 50 Hz	**H**
24V 60 Hz/20V 50 Hz	**T**
28V 60 Hz/24V 50 Hz	**V**
347V 60 Hz	**X**

Power Poles

The C30CNM contactor accepts up to a maximum six single- or two-pole (or combinations) power poles. These can be used to form up to:

- 12 NO poles maximum when six two-poles are used in NO positions (1–6) or
- 8 NC poles maximum with four two-poles in the NC position (1–4) and 4 NO poles with two two-poles in the 2 NO positions (5–6)

Power Poles

Power Poles

Power Poles	Catalog Number
Single-pole	**C320PRP1**
Two-pole	**C320PRP2**

Mechanically Held Module Kits

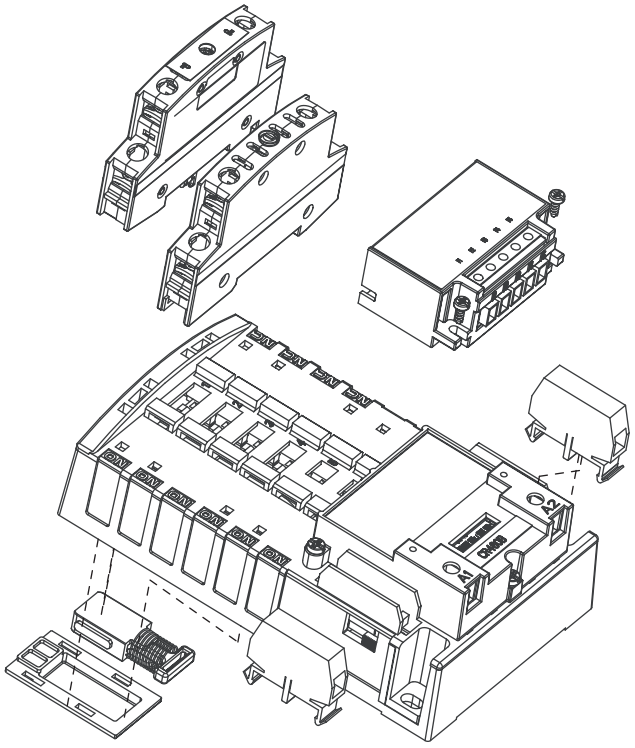
These kits are for converting electrically held contactors to mechanically held units. Kits include control module, latch, latch cover and auxiliary contacts plus installation instructions. Conversion kits are suitable for coil voltages of 277V and below.

Conversion Kits

Mechanically Held Module Kits

Coil Volts	Control Volts	Catalog Number
Two-Wire		
24–277 Vac	110–120 Vac	**C320MH2WA0**
	200–277 Vac	**C320MH2WH0**
	24 Vac	**C320MH2WT0**
	12–24 Vdc	**C320MH2WT1**
Three-Wire		
24–277 Vac	110–120 Vac	**C320MH3WA0**
	200–277 Vac	**C320MH3WH0**
	24 Vac	**C320MH3WT0**
	12–24 Vdc	**C320MH3WT1**

C30CNM Components—Exploded View



Notes

① When ordering, select required contactor by catalog number and replace the magnet coil alpha designation in the catalog number (_) with the proper code suffix from the Coil Base Voltage table on this page.

② A number of other power pole configurations are also available using the single-pole and two-pole power poles. Electrically held units can be purchased with up to 12-pole configurations with a maximum of 8NO and 4NC power poles.