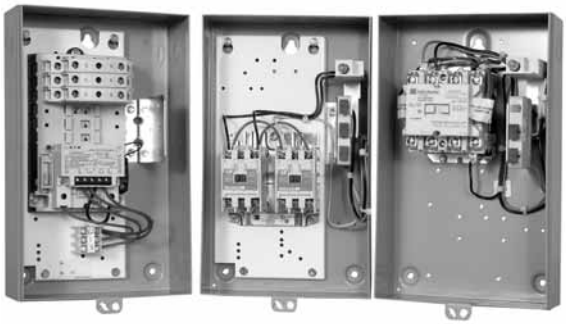
Electrically Held Lighting Contactors

Mechanically Held Lighting Contactor

Type 1 Non-Combination Lighting Contactors

4.1 UL Rated AC Contactors

UL Rated AC Contactors



Contents

Product Description

Eaton's lighting contactors are designed to provide a safe, convenient means for local or remote switching of tungsten (incandescent filament) or ballast (fluorescent and mercury arc) lamp loads. They are also suitable for other loads such as low pressure and high pressure sodium lamp loads and other non-motor (resistive) loads. They are not recommended for most sign flashing loads.

These lighting contactors are designed to withstand the large initial inrush currents of tungsten lamp loads without contact welding. They are fully rated and do not require derating.

Application Description

Loads:

Ballast Lamps—Fluorescent, mercury vapor, metal halide sodium vapor, quartz—600 V maximum.

Filament Lamps—Incandescent, infrared, heating—480 V maximum, line to line; 277 V maximum line to neutral.

Resistance Heating—Radiant and convection heating, furnaces and ovens.

Standards and Certifications

Note: See **Tab 17** for additional information on Standards and Certifications that apply to all Enclosed Control products.

- UL Listed
- cUL Listed
- ABS Type Approved
- OSHPD Certified (OSP-0015-10)

Additional Reference

Accessories	**V10-T4-13** and **Tab 15**
Cover Control	**V10-T4-4**
Dimensions	**Tab 14**
Accessories and Modifications	**Tab 15**
Technical Data and Specifications	**Tab 17**

Catalog Number Selection

Enclosed Lighting Contactors

EC L 12 D 1 A 3 E - X

Design
L = CN35 or A202 lighting contactor
C = C30CN lighting contactor

Class		Page
03	= Non-combination electrically held lighting contactor	**V10-T4-6**, **V10-T4-7**
04	= Non-combination mechanically held/magnetically latched lighting contactor	**V10-T4-6**, **V10-T4-9**
12	= Combination electrically held lighting contactor—fusible disconnect	**V10-T4-11**
13	= Combination magnetically latched lighting contactor—fusible disconnect	**V10-T4-11**
14	= Combination electrically held lighting contactor—thermal magnetic circuit breaker	**V10-T4-12**
15	= Combination magnetically latched lighting contactor—thermal magnetic circuit breaker	**V10-T4-12**

Ampere Size ①		
A = 10 A	**D** = 60 A	**G** = 300 A
B = 20 A	**E** = 100 A	**H** = 400 A
C = 30 A	**F** = 200 A	**J** = 600 A

Enclosure Types
1 = Type 1—General purpose
2 = Type 3R—Rainproof
3 = Type 4—Watertight (painted)
4 = Type 4X—Watertight (304-Grade stainless steel)
6 = Type 7/9—Explosion proof
8 = Type 12—Dust-tight
9 = Type 4X—Watertight (316-Grade stainless steel)

Modification Codes
(See **Pages V10-T4-4** and **V10-T4-5** and **Tab 15**)

Disconnect Fuse Clip Ratings	
A = None	**J** = 200 A / 600 V R
B = 30 A / 250 V R	**K** = 400 A / 250 V R
C = 30 A / 600 V R	**L** = 400 A / 600 V R
D = 60 A / 250 V R	**M** = 600 A / 250 V R
E = 30 A / 600 V R	**N** = 600 A / 600 V R
F = 100 A / 250 V R	**P** = 800 A / 600 V R
G = 100 A / 600 V R	**T** = By description
H = 200 A / 250 V R	

Thermal-Magnetic Breaker Ratings			
A = None	**F** = 60 A	**J** = 300 A	**M** = 800 A
D = 20 A	**G** = 100 A	**K** = 400 A	**T** = By description
E = 30 A	**H** = 200 A	**L** = 600 A	

Number of Poles ②
1, **2**, **3**, **4**, **5**, **6**, **7**, **8**, **9** = Poles required
A = 10 poles
B = 12 poles
C = 20 poles
Combination Devices = Three-pole only

Coil Voltage		
A = 120/60 110/50	**K** = 240/50	**T** = 24/60
B = 240/60 220/50	**L** = 380/50	**U** = 24/50
C = 480/60 440/50	**M** = 415/50	**V** = 32/50
D = 600/60 550/50	**P** = 12 Vdc	**W** = 48/60
E = 208/60	**Q** = 24 Vdc	**X** = 104–120/60
G = 550/50	**R** = 48 Vdc	**Y** = 48/50
H = 277/60	**S** = 125 Vdc	**Z** = By description
J = 208–240/60		

Enclosures

Lighting contactors are available open or mounted in Type 1, 3R, 4, 4X, 12 or 7/9 enclosures.

Type 1 is for indoor, general purpose for personal protection. Knock-outs are provided in the top and bottom for conduit entry.

Type 3R is for outdoor applications and rated for rain, sleet and external ice buildup. Type 3R enclosures have knockouts in the bottom and provisions for a hub in the top.

Type 4 and 4X are for mounting indoor or outdoor and provide protection from splashing water, hose-directed water and wind-blown dust. Watertight conduit hubs are provided in the top and bottom of Type 4X enclosures. The standard Type 4X enclosures are made of 304-Grade stainless steel, providing corrosion protection. 316-Grade stainless steel construction is available as an upgrade option.

Type 12 enclosures are for indoor mounting and protect from dripping liquids, falling dirt and dust. No knockouts or hubs are provided with Type 12 enclosures.

Type 1, 3R, 4 and 12 enclosures are painted with a polyester urethane powder coat paint meeting UL requirements and the color is ANSI 61 gray. Type 1 enclosures have knockouts for cover controls. All the other types have holes plugged, ready for cover controls. Type 7/9 is also available for explosion proof applications. Please contact the factory for additional details.

Notes

① C30CN available in 30 A only.

② For normally closed poles see **Tab 15**.

Type 1, 3R, 4X and 12 Cover Control Non-Combination (Non-Box 1) and Combination Cover Control

		Factory Installed Cover Control		Field Installation Kits	
		Type 1, 3R, 4X and 12	Type 7/9	Type 1 ①②	Type 3R, 4X and 12 Non-Combination and Type 1, 3R, 4X and 12 Combination ②
Description	**For Use with Lighting Contactor**	**Modification Code Suffix**	**Modification Code Suffix**	**Catalog Number**	**Catalog Number**
ON/OFF pushbuttons	Electrical three-wire C30CN; CN35; A202	**P8**	**P8**	**C400GK18**	**C400T2**
With red RUN pilot light		**P8P23**	**P8P23**	**C400GK19_**	—
With red RUN/GREEN off lights		**P8P23P25**	**P8P23P25**	**C400GK1A_**	—
ON/OFF Pushbuttons	Mechanical three-wire C30CN	**P8**	**P8**	**C400GK4**	**C400T201**
With red RUN pilot light		**P8P23**	**P8P23**	**C400GK48_**	—
With red RUN/GREEN off lights		**P8P23P25**	**P8P23P25**	**C400GK49_**	—
ON/OFF pushbuttons	Electrical and mechanical two-wire C30CN; CN35; A202	**P8**	**P8**	**C400GK5**	**C400T14** ③
With red RUN pilot light		**P8P23**	**P8P23**	**C400GK52_**	—
With red RUN/GREEN off lights		**P8P23P25**	**P8P23P25**	**C400GK55_**	—
Start/stop pushbuttons	Mechanical three-wire C30CN	**P7**	**P7**	**C400GK7**	**C400T200**
With red RUN pilot light		**P7P23**	**P7P23**	**C400GK72_**	—
With red RUN/GREEN off lights		**P7P23P25**	**P7P23P25**	**C400GK75_**	—
Start/stop pushbuttons	Electrical and mechanical two-wire C30CN	**P7**	**P7**	**C400GK6**	**C400T13** ③
With red RUN pilot light		**P7P23**	**P7P23**	**C400GK62_**	—
With red RUN/GREEN off lights		**P7P23P25**	**P7P23P25**	**C400GK65_**	—
HAND/OFF/AUTO cover control	Electrical and mechanical two-wire C30CN; CN35; A202	**S3**	**S3** ④	**C400GK3**	**C400T12** ③
With red RUN pilot light		**S3P23**	**S3P23** ④	**C400GK32_**	—
With red RUN/GREEN off lights		**S3P23P25**	**S3P23P25** ④	**C400GK35_**	—
Red RUN pilot light	All	**P23**	**P23**	**C400GK42_**	**C400T9_**
Green OFF pilot light		**P25**	**P25**	**C400GK41_**	**C400T10_**
Red RUN/green OFF pilot light		**P23P25**	**P23P25**	**C400GK46_**	**C400T11_**

Notes

① For use with non-combination units (box sizes 2–4).

② Add code letter from table below to catalog number for voltage in place of _.

Rating	Code Letter	Rating	Code Letter	Rating	Code Letter
24 V 60 Hz	**T**	240 V 60 Hz	**B**	480 V 60 Hz	**C**
120 V 60 Hz	**A**	277 V 60 Hz	**H**	600 V 60 Hz	**D**
208 V 60 Hz	**E**	380 V 60 Hz	**L**		

③ Selector switch.

④ With three-position selector switch, Mod **C20** (two-wire control relay) must be used with magnetically latched contactor (ECL04, ECL13, ECL15).

Class ECL03—Non-Combination Electrically Held Lighting Contactor

No. of Poles	Frame Size	Type 1 General Purpose Catalog Number ①	Type 3R Rainproof Catalog Number ①	Type 4X ② Watertight and Dust-Tight Stainless Steel Catalog Number ①	Type 7/9 Hazardous Location Catalog Number ①	Type 12 Dust-Tight Industrial Catalog Number ①	Component Contactor (Open) Catalog Number ①
Maximum Ampere Rating—10 ③							
2	45 mm	ECL03A1_2A	ECL03A2_2A	ECL03A4_2A	ECL03A6_2A	ECL03A8_2A	CN35AN2_B
3		ECL03A1_3A	ECL03A2_3A	ECL03A4_3A	ECL03A6_3A	ECL03A8_3A	CN35AN3_B
4		ECL03A1_4A	ECL03A2_4A	ECL03A4_4A	ECL03A6_4A	ECL03A8_4A	CN35AN4_B
5		ECL03A1_5A	ECL03A2_5A	ECL03A4_5A	ECL03A6_5A	ECL03A8_5A	—
6		ECL03A1_6A	ECL03A2_6A	ECL03A4_6A	ECL03A6_6A	ECL03A8_6A	—
9		ECL03A1_9A	ECL03A2_9A	ECL03A4_9A	ECL03A6_9A	ECL03A8_9A	—
10		ECL03A1_AA	ECL03A2_AA	ECL03A4_AA	ECL03A6_AA	ECL03A8_AA	—
12		ECL03A1_BA	ECL03A2_BA	ECL03A4_BA	ECL03A6_BA	ECL03A8_BA	—
20		ECL03A1_CA	ECL03A2_CA	ECL03A4_CA	ECL03A6_CA	ECL03A8_CA	—
Maximum Ampere Rating—20 ③							
2	45 mm	ECL03B1_2A	ECL03B2_2A	ECL03B4_2A	ECL03B6_2A	ECL03B8_2A	CN35BN2_B
3		ECL03B1_3A	ECL03B2_3A	ECL03B4_3A	ECL03B6_3A	ECL03B8_3A	CN35BN3_B
4		ECL03B1_4A	ECL03B2_4A	ECL03B4_4A	ECL03B6_4A	ECL03B8_4A	CN35BN4_B
5		ECL03B1_5A	ECL03B2_5A	ECL03B4_5A	ECL03B6_5A	ECL03B8_5A	—
6		ECL03B1_6A	ECL03B2_6A	ECL03B4_6A	ECL03B6_6A	ECL03B8_6A	CN35BN6_B
9		ECL03B1_9A	ECL03B2_9A	ECL03B4_9A	ECL03B6_9A	ECL03B8_9A	CN35BN9_B
10		ECL03B1_AA	ECL03B2_AA	ECL03B4_AA	ECL03B6_AA	ECL03B8_AA	—
12		ECL03B1_BA	ECL03B2_BA	ECL03B4_BA	ECL03B6_BA	ECL03B8_BA	CN35BN12_B
20		ECL03B1_CA	ECL03B2_CA	ECL03B4_CA	ECL03B6_CA	ECL03B8_CA	—
Maximum Ampere Rating—30 ③							
2	45 mm	ECL03C1_2A	ECL03C2_2A	ECL03C4_2A	ECL03C6_2A	ECL03C8_2A	CN35DN2_B
3		ECL03C1_3A	ECL03C2_3A	ECL03C4_3A	ECL03C6_3A	ECL03C8_3A	CN35DN3_B
4		ECL03C1_4A	ECL03C2_4A	ECL03C4_4A	ECL03C6_4A	ECL03C8_4A	CN35DN4_B
5		ECL03C1_5A	ECL03C2_5A	ECL03C4_5A	ECL03C6_5A	ECL03C8_5A	CN35DN5_B
6		ECL03C1_6A	ECL03C2_6A	ECL03C4_6A	ECL03C6_6A	ECL03C8_6A	CN35DN6_B
9		ECL03C1_9A	ECL03C2_9A	ECL03C4_9A	ECL03C6_9A	ECL03C8_9A	CN35DN9_B
10		ECL03C1_AA	ECL03C2_AA	ECL03C4_AA	ECL03C6_AA	ECL03C8_AA	—
12		ECL03C1_BA	ECL03C2_BA	ECL03C4_BA	ECL03C6_BA	ECL03C8_BA	CN35DN12_B
20		ECL03C1_CA	ECL03C2_CA	ECL03C4_CA	ECL03C6_CA	ECL03C8_CA	—
Maximum Ampere Rating—60 ③							
2	65 mm	ECL03D1_2A	ECL03D2_2A	ECL03D4_2A	ECL03D6_2A	ECL03D8_2A	CN35GN2_B
3		ECL03D1_3A	ECL03D2_3A	ECL03D4_3A	ECL03D6_3A	ECL03D8_3A	CN35GN3_B
4		ECL03D1_4A	ECL03D2_4A	ECL03D4_4A	ECL03D6_4A	ECL03D8_4A	CN35GN4_B
5		ECL03D1_5A	ECL03D2_5A	ECL03D4_5A	ECL03D6_5A	ECL03D8_5A	CN35GN5_B
6		ECL03D1_6A	ECL03D2_6A	ECL03D4_6A	ECL03D6_6A	ECL03D8_6A	—
9		ECL03D1_9A	ECL03D2_9A	ECL03D4_9A	ECL03D6_9A	ECL03D8_9A	—
10		ECL03D1_AA	ECL03D2_AA	ECL03D4_AA	ECL03D6_AA	ECL03D8_AA	—
12		ECL03D1_BA	ECL03D2_BA	ECL03D4_BA	ECL03D6_BA	ECL03D8_BA	—

Notes

① For open position (coil voltage), use the table below:

Suffix	Coil Voltage	Suffix	Coil Voltage	Suffix	Coil Voltage
A	120/60 or 110/5	**C**	480/60 or 440/50	**E**	208/60
B	240/60 or 220/50	**D**	600/60 or 550/50	**H**	277/60

② The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECL03B**4**A2A. To order Type 4X 316-Grade stainless steel, change that digit to **9**. To order Type 4 painted steel, change that digit to **3**. To order non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

③ Ampere ratings are based on a maximum load voltage of 480 V for tungsten lamp applications and 600 V for ballast or mercury vapor type applications.