

D15 Series—Freedom 600V Multipole



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D15 Series—Freedom 600V Multipole

Product Description

Contact poles on the D15 relay are of the fixed design and are not convertible. The basic four-pole relay will accept a front-mounted contact pole deck and/or side-mounted contact blocks (one per side). In addition, a side-mounted solid-state timer or a front-mounted pneumatic timer can be added to the relay. Only one front-mounted attachment can be added to the basic relay.

Application Description

Side-mounted contact blocks can be used to provide additional poles in applications where a pneumatic timer is installed on the front of the relay. They can also be used where panel depth is restricted.

The maximum number of contacts recommended per relay is eight, six of which can be NC. When a pneumatic timer is used, the maximum recommended number of NC contacts is three.

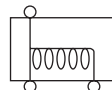
Relays with DC coils are supplied with a coil clearing NC contact mounted on the side of the relay.

Features and Benefits

- 600V, 10A continuous thermal current
- State indicator visually shows relay ON or OFF status
- Relay base has mounting holes on 35 x 60 mm centers, permitting direct replacement of competitive relays
- Relay also mounts on 35 mm DIN rail as standard
- Magnet coil has three terminals, permitting either top or diagonal wiring—easy to replace European or U.S. relays without changing wiring layout
- Contact pole terminals have captive, backed-out, self-lifting pressure plates with ± screws—reduced wiring time
- All terminals are shrouded or “finger-proofed” to reduce possibility of electrical shock

Standards and Certifications

- UL
- CSA certified


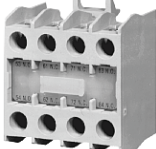



Product Selection

When Ordering, Specify

Catalog number and magnet coil code letter. Example: For a four-pole relay having 4NO contacts with a 120V 60 Hz coil, order Catalog Number D15CR40AB.

Factory-Assembled Multipole Relays

	Number of Poles	Type of Contacts		Open Type Catalog Number ^①
		NO	NC	
 D15CR40_B	4	4	0	D15CR40_B
		3	1	D15CR31_B
		2	2	D15CR22_B
		1	3	D15CR13_B
		0	4	D15CR04_B
 D15CR60_B	6 (four-pole relay with two-pole front-mounted deck)	6	0	D15CR60_B
		5	1	D15CR51_B
		4	2	D15CR42_B
		3	3	D15CR33_B
		2	4	D15CR24_B
		1	5	D15CR15_B ^②
		0	6	D15CR06_B ^②
 D15CR80_B	8 (four-pole relay with four-pole front-mounted deck)	8	0	D15CR80_B
		7	1	D15CR71_B
		6	2	D15CR62_B
		5	3	D15CR53_B
		4	4	D15CR44_B
		3	5	D15CR35_B ^②
		2	6	D15CR26_B ^②

Additional Contact Poles

Description	Catalog Number
Front Contact Pole Deck	
1NO-1NC	C320KGT3
2NO	C320KGT4
2NC	C320KGT5
1NO (early closing)–1NC (late opening)	C320KGT7
4NO	C320KGT13
3NO-1NC	C320KGT14
2NO-2NC	C320KGT15
1NO-3NC	C320KGT16
4NC	C320KGT17
Side-Mounted Contact Blocks	
1NO-1NC	C320KGS3
2NO	C320KGS4
2NC	C320KGS5
1NO (early closing)–1NC (late opening)	C320KGS7

Notes

- ① Underscore indicates missing code suffix for magnet coil—see Magnet Coil Selection table above.
 ② Not all suffix codes available: consult Customer Support Center.

Magnet Coil Selection

AC Coils Volts and Hertz	Code Suffix	DC Coils Volts	Code Suffix
120/60 or 110/50	A	12	R1
240/60 or 220/50	B	24	T1
480/60 or 440/50	C	48	W1
600/60 or 550/50	D	120	A1
208/60	E		
277/60	H		
208–240/60	J		
24/60	T		

Accessories

C320 Pneumatic Timer Attachment



Pneumatic Timer Attachment

Timing Range	Catalog Number
0.1 to 30 seconds	C320TP1
10 to 180 seconds	C320TP2

Description	Maximum Ampere Ratings			
	Volts AC			
	120	240	480	600
Make	30	15	7.5	6
Break	3	1.5	0.75	0.6

Attachment mounts on top of any Freedom Series relay (top-mounted auxiliary contacts can not be installed on device when timer is used). Timer unit has DPST

timed contacts—circuits in each pole must be the same polarity. Units are convertible from OFF to ON delay or vice-versa.

Finger Protection Shields

Application	Catalog Number
D15	C320LS1

Snap-on shields for both contactors and starters provide IEC Type IP20

Finger Protection. Prevents accidental contact with line/load terminals.

Adhesive Dust Cover

Description	Catalog Number
25 to a package	C320DSTCVR

These adhesive stickers come 25 to a package and provide extra protection from contaminants when applied to the sides of Freedom D15. Adhesive covers are easily

applied to side opening where auxiliaries are not installed and provide extra protection from metal filings and other debris.

Solid-State Timer



Solid-State ON DELAY Timer ①

Timing Range	Catalog Number ②③④
0.1 to 1.0 seconds	C320TDN1_
1 to 30 seconds	C320TDN30_
30 to 300 seconds	C320TDN300_
5 to 30 minutes	C320TDN3000_

This timer is designed to be **wired in series with the load** (typically a coil). When the START button is pushed (power applied to timer), the ON delay timing function starts. At the completion of the set timing period, timer and series wired load will both be energized.

C321MP1



Metal Mounting Plate

Description	Catalog Number
Metal mounting plate	C321MP1

Fits all D15 multipole relays.

DIN Rail



Mounting Channel (DIN Rail)

Description	Catalog Number
1 meter length	XBANS3575P

Designed for DIN rail mounting of Freedom Series relays.

C320TS2



Transient Suppressor Kits

Description	Coil Voltage 50/60 Hz ⑤	Catalog Number
Transient	24/120V	C320TS1
Suppressor	208/240V	C320TS2
	277/480V	C320TS3

These kits limit high voltage transients produced in the control circuit when power is removed from the contactor or starter coil. There are three separate suppressors for use on 24–120V, 208–240V or 27–480V coils respectively.

These devices mount directly to the coil terminals.

Notes

- ① Side mounted on Freedom Series NEMA 00–2, D15, IECA-K and C25D, C25E and C25F frame.
- ② Add operating voltage suffix to catalog number; **A** = 120V, **B** = 240V, **E** = 208V.
- ③ Rated 0.5 ampere pilot duty—not to be used on larger contactors.
- ④ Terminal connections are quick connects only. Two per side.
- ⑤ Suppressor is compatible with coil voltages/ranges as shown, both 50 and 60 Hz.

C320DC



AC/DC Interface Module— Controller Coil Voltage Ranges

Controller Catalog Number Prefix	Controller Size or Rating	Coil Range Volts AC
AE16, AE17, AE56, AE57, CE15, CE55	A–F	24–240
	G–K	48–240
	L–N	110–240
AN16, AN56, CN15, CN55	00–0	24–240
	1–2	48–240
	3	110–240
CN35	10–30A	24–240
	60A	48–240
	100A	110–240

The Catalog Number C320DC Interface Module is an optically isolated solid-state switch that provides a means of operating AC coils with a 24 Vdc control signal. It acts as a space-saving interposing relay that can switch a specified 50/60 Hz AC source to the contactor or starter coil.

The module may be directly attached to the coil terminals of any Freedom Series contactor or starter—NEMA Sizes 00–3, D15, IEC Sizes A–N and lighting contactors 10–100A. It also has

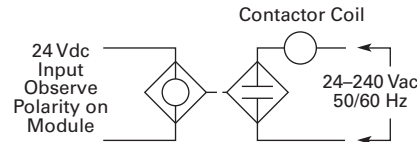
provisions for DIN rail mounting.

The module will operate coils within the voltage ranges shown in the table to the left.

Design Characteristics

- DC input: 24V ±10% at mA nominal
- AC operating voltage: 24–240 Vac ±10% 50/60 Hz
- AC current rating: 10A make (inrush), 1A break (sealed)

Typical Application—Solid-State Switch



Technical Data and Specifications

Contact Ratings—NEMA A600

Continuous Thermal Rating: 10A

AC Volts	Make	Break
120	60	6.0
240	30	3.0
480	15	1.5
600	12	1.2

Contact Ratings—NEMA P300

Continuous Thermal Rating: 5A

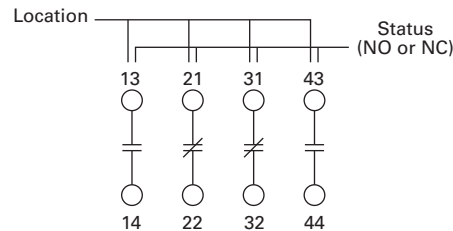
DC Volts	Make/Break Amperes
125	1.1
250	0.55

Magnet Coil Data

AC Voltage	Pickup VA	Watts	Sealed VA	Watts
12–600V	80	49	7.5	2.4

DC Voltage	Pickup Amps	Watts	Sealed VA	Watts
12	6.4	76.8	0.28	3.36
24	3.2	76.8	0.14	3.36
48	1.6	76.8	0.07	3.36
120	0.64	76.8	0.028	3.36

Example of Terminal Marking with 2NO and 2NC Contacts



Relay terminals are identified by a two-digit number in accordance with International Standards approved by CENELEC (European Committee for Electrotechnical Standardization). The number is marked on the relay and is used to identify location and status of the contacts.

The first digit indicates the location of the contact on the relay. The numbering begins with 1 and continues without a break from left to right.

The second digit indicates the status of the contacts (NO or NC). Terminal marking 1 and 2 mean NC and 3 and 4 mean NO.

3.7

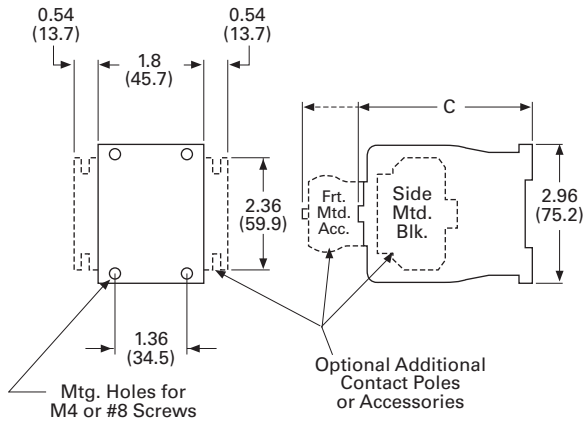
Control Relays and Timers

Machine Tool Relays

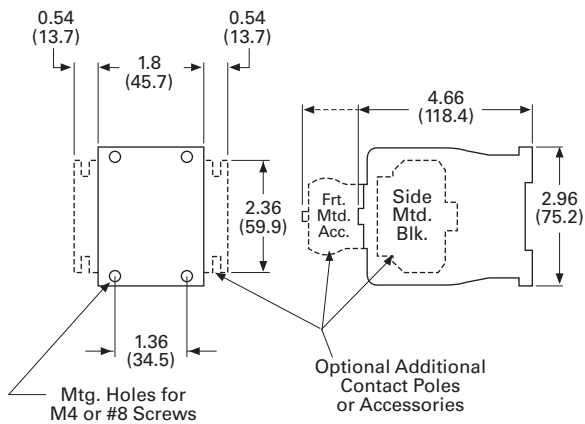
Dimensions

Approximate Dimensions in Inches (mm)

D15 Four-Pole Relay



D15 Six- and Eight-Pole Relays



Dimensions and Shipping Weights

Description	Dimension C	Shipping Weights Lbs (kg)
Relay only	3.30 (83.8)	1.3 (0.6)
Relay with timer attachment	5.55 (141.0)	1.5 (0.7)
Relay with front contact pole deck	4.66 (118.4)	1.7 (0.8)