

Bulletin 300 AC Contactors

Selection Guide



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AC Contactor

Product Overview/Product Selection



Bulletin 300

- NEMA sizes 0...5
- Compact size (space saving design)
- Guarded terminals
- Complete range of accessories
- Solid-state overload relays
- Electronic and conventional coils
- 35 mm DIN Rail mountable

Bulletin 300 modular line of NEMA contactors, when combined with Bulletin 193 solid-state overload relays, auxiliary contacts, interlocks, suppressors, and DIN mounting rail provides the most compact and flexible starter component system available.

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Standards Compliance

UL 508
 CSA C22.2, No. 14
 NEMA/EEMAC ICS2

Certifications

cULus Listed (File E41850
 Guide No. NLDX, NLDX7)
 CE Marked (EN 60947-4-1)

Feed-Through Wiring for Motor Loads

NEMA Size*	Continuous Ampere Rating [A]	Maximum Horsepower Rating Full Load Current Must Not Exceed "Continuous Ampere Rating"				Open Type Without Enclosure Cat. No.
		Motor Voltage				
		200V	230V	380...415V	460...575V	
0	18	3	3	5	5	300-AO®930
1	27	7.5	7.5	10	10	300-BO®930
2	45	10	15	25	25	300-CO®930
3	90	25	30	50	50	300-DO®930
4	135	40	50	75	100	300-EO®930
5	270	75	100	150	200	300-FO®930

* Contactor sizes 0...3 come standard with 1 N.O. auxiliary contact.
 Contactor sizes 4...5 come standard with 1 N.O. and 1 N.C. auxiliary contact.

⊗ Coil Voltage Code and Terminal Position (NEMA Sizes 0...3)

The cat. no. as listed is incomplete. To complete the cat. no., select a Coil Voltage Code from the table below and insert into the cat. no.
 Example: 120V, 60 Hz: **Cat. No. 300-AO®930** becomes **Cat. No. 300-AOD930**.

[V]	24	48	100	100... 110	110	120	200	200... 220	208	208... 240
AC, 50 Hz	K	Y	KP	—	D	P	KG	L	—	—
AC, 60 Hz	J	X	—	KP	—	D	—	KG	H	L
AC, 50/60 Hz	KJ	KY	KP	—	KD	—	KG	—	—	—
DC	EJ	—	—	—	—	—	—	—	—	—

[V]	220... 230	230... 240	240	277	347	380	380... 400	400... 415	440	480	500	550	600
AC, 50 Hz	F	VA	T	—	—	—	N	G	B	—	M	C	—
AC, 60 Hz	—	—	A	T	I	E	—	—	N	B	—	—	C
AC, 50/60 Hz	—	—	KA	—	—	—	—	—	KB	—	—	—	—

Coil Terminal Position

All contactors are delivered with the coil terminals located on the line side.



Cat. No. 300-AO®930 Line Side

⊗ Coil Voltage Code (NEMA Sizes 4...5)

Conventional Coil	[V]	24	48	110	120	208	200...230	240	277	380...400	415	440	480	500	550	600
NEMA Size 4	AC, 50 Hz	K	Y	D	—	—	A	T	—	N	G	B	—	M	C	—
	AC, 60 Hz	J	X	—	D	H	—	A	T	—	—	N	B	—	—	C

Electronic Coil with EI Interface*	[V]	24	42...64	100	110...130	200	208...277	380...415	440...480	500	600
NEMA Size 4...5	AC, 50/60 Hz	EJ‡	EY	EP	ED	EG	EA	EN	EN	EN	—

Electronic Coil with EI Interface*	[V]	24	48...72	110...130	200...255
NEMA Size 4...5	DC	EZJ	EZY	EZD	EZA

* Signal voltage of the 300 Line electronic interface: Nominal U_g : 24V DC/ I_g : 15 mA
 Pickup voltage: 13.0...30.2V DC, Dropout Voltage: -3.0...+5.0V DC.

‡ Coil code EJ is not available for NEMA size 5.

Bulletin 193-EE – Three-Phase Devices

- Selectable trip class (10, 15, 20, 30)
- Selectable manual/auto-manual reset
- Screw-type control terminals

Mounts to NEMA Contactor Size	Adjustment Range [A]	Cat. No.
0	1.0...5.0	193-EECB
	5.4...27	193-EEEB
1	5.4...27	193-EEED
2	9...45	193-EEFD
3	18...90	193-EEGE
4	40...200	193-EEJF
5	40...200	193-EEJG
	60...300	193-EEKG

E3 Overload Relay

- 0.4...5000 A current range
- Adjustable trip class 5...30
- Integrated I/O

NEMA Size	Adjustment Range [A]	E3		E3 Plus	
		Cat. No.	Cat. No.	Cat. No.	Cat. No.
0	1...5	193-EC1AB	193-EC2AB	193-EC3AB	
	3...15	193-EC1BB	193-EC2BB	193-EC3BB	
	5...25	193-EC1CB	193-EC2CB	193-EC3CB	
1...2	9...45	193-EC1DD	193-EC2DD	193-EC3DD	
3	18...90	193-EC1EE	193-EC2EE	193-EC3EE	
4	42...210	* 193-EC1GF	* 193-EC2GF	* 193-EC3GF	
5	42...210	* 193-EC1GG	* 193-EC2GG	* 193-EC3GG	
	60...302	* 193-EC1HG	* 193-EC2HG	* 193-EC3HG	

* Does not include terminal lugs.

E3 and E3 Plus Solid-State Overload Relays

Panel Mount Devices for use with External Current Transformers*†

Description	Adjustment Range [A]‡	Cat. No.
<ul style="list-style-type: none"> • 2 Inputs • 1 Output 	9...5000	193-EC1ZZ
<ul style="list-style-type: none"> • 4 Inputs • 2 Outputs • External Ground Fault Sensor Input • PTC Thermistor Input • DeviceLogix 	9...5000	193-EC2ZZ





* Current transformers supplied by customer. Refer to Specifications, [T-353355] for proper current transformer selection.

† Order panel adapter, Cat. No. 193-ECPM2, separately.










‡ CT Ratio to FLA setting range correlation.

CT Ratio	FLA Setting Range [A]	CT Ratio	FLA Setting Range [A]	CT Ratio	FLA Setting Range [A]
50:5	9...45	300:5	60...302	1200:5	240...1215
100:5	18...90	500:5	84...420	2500:5	450...2250
150:5	28...140	600:5	125...630	5000:5	1000...5000
200:5	42...210	800:5	172...860	—	—









Auxiliary Contacts

	Description			For Use With NEMA Sizes	Cat. No.	Bifurcated Auxiliary Contact Cat. No.
		N.O.	N.C.			
 <p>Auxiliary Contact Blocks for Front Mounting* - 2- and 4-pole - Quick and easy mounting without tools - Electronic-compatible contacts down to 17V, 5 mA - Mechanically linked performance between N.O. and N.C. poles and to the main contactor poles (except for L types) - Models with equal function with several terminal numbering choices L = Late break N.C./early make N.O.</p>	0	2	0...3	100-FA02	100-FAB02	
	1	1		100-FA11	100-FAB11	
	2	0		100-FA20	100-FAB20	
	1L	1L		100-FBL11	—	
	0	4		100-FA04	100-FAB04	
	1	3		100-FA13	100-FAB13	
	2	2		100-FA22	100-FAB22	
	3	1		100-FA31	100-FAB31	
	4	0		100-FA40	100-FAB40	
	1+1L	1+1L		100-FAL22	—	
 <p>Auxiliary Contact Blocks for Side Mounting with Sequence Terminal Designations* - 1- and 2-pole - Two-way numbering for right or left mounting on the contactor - Quick and easy mounting without tools - Electronic-compatible contacts down to 17V, 10 mA - Mirror contact performance to the main contactor poles L = Late break N.C./early make N.O.</p>	0	1	0...3	100-SB01	—	
	1	0		100-SB10	—	
	0	2		100-SB02	—	
	1	1		100-SB11	—	
	2	0		100-SB20	—	
	1L	1L		100-SBL11	—	

* Max. number of auxiliary contacts that may be mounted:
 AC coil contactors — max. 4 N.O. contacts on the front of the contactor, 2 N.O. contacts on the side, 4 N.C. front or side, 6 total.
 DC coil contactors — max. 4 N.O. contacts on the front of the contactor or max 2 N.O. contacts on the side, 4 N.C. front or side, 4 total.

	Description			Connection Diagram	For Use With NEMA Sizes	Cat. No.
		No. of N.O. Contacts	No. of N.C. Contacts			
 <p>Auxiliary Contacts Side mounted With sequence terminal designations</p>	1	1		4...5 Left/Right inside mounting	100-DS1-11	
	1	1		4...5 Left/Right outside mounting	100-DS2-11	
	1	1L		4...5 Left/Right inside mounting	100-DS1-L11	
	2	0		4...5 Left/Right inside mounting	100-DS1-20	
	2	0		4...5 Left/Right outside mounting	100-DS2-20	
<p>Auxiliary Contacts Electronically compatible auxiliary contacts Ideal for use when switching low-power control circuits With IEC sequence terminal designations Contact ratings: AC-12, 250V, 0.1 A AC-15, DC-13, 3...125V, 1...100 mA</p>	1	1		4...5 Left/Right inside mounting	100-DS1-B11	

Control Modules

	Description		For Use With NEMA Sizes		Cat. No.
	Pneumatic Timing Modules Pneumatic timing element contacts switch after the delay time. The contacts on the main control relay continue to operate without delay.	On-Delay 0.3...30 s Range 1.8...180 s Range	0...3 with AC coils		100-FPTA30 100-FPTA180
		Off-Delay 0.3...30 s Range 1.8...180 s Range	0...3		100-FPTB30 100-FPTB180
	Electronic Timing Modules — On-Delay Delay of the contactor or control relay solenoid. The contactor or control relay is energized at the end of the delay time.	On-Delay 0.1...3 s Range 1...30 s Range 10...180 s Range 110...240V, 50/60 Hz 110...250V DC	0...3		100-ETA3 100-ETA30 100-ETA180
	Electronic Timing Modules — Off-Delay Delay of the contactor or control relay solenoid. After interruption of the control signal, the contactor or control relay is de-energized at the end of the delay time.	Off-Delay 0.3...3 s Range 1...30 s Range 10...180 s Range 110...240V, 50/60 Hz	0...3 with AC coils		100-ETB3 100-ETB30 100-ETB180
	Electronic Timing Modules Delay of the contactor solenoid. Contactor K 3 (Y) is de-energized (off) and K 2 (D) is energized (on) after the end of the set Y end time. (Switching delay at 50 ms.) Continuous adjustment range High repeat accuracy	Transition Time Y Contactor 1...30 s Range 110...240V, 50/60 Hz	0...3 with AC coils		100-ETY30
	Mechanical Interlocks For interlocking of two contactors. Common interlock for all Bul. 300 contactor sizes 0...3 Interlocking of different sizes possible Mechanical and electrical interlocking possible in one module by means of integrated auxiliary contacts 9 mm dovetail connector included	Mechanical only, without auxiliary contacts	0...3		100-MCA00
		Mechanical/ electrical interlock with 2 N.C. auxiliary contacts	0...3		100-MCA02
	DC Interface (electronic) Interface between the DC control signal (PLC) and the AC operating mechanism of the contactor/control relay. Control (input) voltage 12V DC 18...30V DC (24V nominal) 48V DC Requires no additional surge suppression on the relay coils		0...3 with AC coils		100-JE
	Mechanical Latch Following contactor latching, the contactor coil is immediately de-energized (off) by the N.C. auxiliary contact (65-66). Electrical or manual release 1 N.O. + 1 N.C. auxiliary contacts Suitable for all Bul. 300 contactor sizes 0...3		0...3 with AC coils		100-FL11⊗
	Surge Suppressors For limitation of coil switching transients. Plug-in, coil mounted Suitable for all Bul. 300 contactor sizes 0...3 RC, varistor, and diode versions	RC Module AC operating mechanism	0...3 with AC coils	24...48V AC, 50/60 Hz	100-FSC48
				110...280V AC, 50/60 Hz	100-FSC280
		Varistor Module AC/DC operating mechanism	0...3	380...480V AC, 50/60 Hz	100-FSC480
				12...55V AC/ 12...77V DC	100-FSV55
				56...136V AC/ 78...180V DC	100-FSV136
				137...277V AC/ 181...350V DC	100-FSV277
278...575V AC	100-FSV575				






⊗ **Voltage Suffix Code**

The cat. no. as listed is incomplete. Select a voltage suffix code from the table below to complete the cat. no. Example: 120V, 60 Hz: **Cat. No. 100-FL11⊗** becomes **Cat. No. 100-FL11D**.





Voltage*	24V	48V	100V	110V	120V	230-240V	240V	277V	380-400V	400-415V	440V	480V
50 Hz	K	Y	KP	D	—	VA	T	—	N	G	B	—
60 Hz	J	—	—	—	D	—	A	T	—	—	N	B

* For special voltages, consult your local Rockwell Automation sales office or Allen-Bradley distributor.

Assembly Components


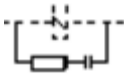
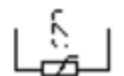
	Description	For Use With NEMA Sizes	Pkg. Quantity	Cat. No.
 Cat. No. 100-S0	Dovetail Connectors For use in contactor and starter assemblies. Single Connector — 0 mm Spacing	0...3	10	100-S0
	Dovetail Connectors For use in contactor and starter assemblies. Dual Connector — 9 mm Spacing			100-S9
 Cat. No. 100-SCCA	Protective Covers Provides protection against unintended manual operation For contactors and front mounted auxiliary contacts, pneumatic timers and latches	0...3	1	100-SCCA
 Cat. No. 100-SCFA		100-FA, -FB, -FC, -FP, -FL;	10	100-SCFA
 Cat. No. 105-PW23	Reversing Power Wiring Kits For reversing connection with a solid-state or thermal overload relay	0	1	105-PW23
		1		105-PW37
		2		105-PW43
		3		105-PW85
 Cat. No. 199-DR1	DIN (#3) symmetrical rail 35 x 7.5 x 1 m	0...2	10	199-DR1

Marking Systems

	Description	Pkg. Qty.*	Cat. No.
	Label Sheet 105 self-adhesive paper labels each, 6 x 17 mm	10	100-FMS
	Marking Tag Sheet 160 perforated paper labels each, 6 x 17 mm, to be used with a transparent cover	10	100-FMP
	Transparent Cover To be used with marking tag sheets	100	100-FMC
	Marking Tag Adapters To be used with marking tag: System V4/V5	100	100-FMA1
	Marking Tag Adapters To be used with marking tag: System 1492 W	100	100-FMA2








* Must be ordered in multiples of package quantities.




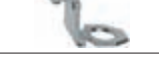



Suppressor Modules

	Description	Circuit Diagram	Suppressor Rating	For Use With NEMA Sizes	Cat. No.
	Suppressor Module for Bul. 100-D Contactors <ul style="list-style-type: none"> For limiting surge voltage when coil circuits are interrupted Supplied as standard on all conventional DC coil contactors and all electronic coil contactors (as part of the supply module or delivered with separate suppressor module) 		RC Module (AC control) for contactors with conventional coil 21...48V, 50 Hz; 24...55V, 60 Hz	4	100-DFSC48
			95...110V, 50 Hz; 110...127V, 60 Hz		100-DFSC110
			180...277V, 50 Hz; 208...277V, 60 Hz		100-DFSC240
			380...550V, 50 Hz; 440...600V, 60 Hz		100-DFSC550
			Varistor Module for contactors with conventional coil 55V AC 56...136V AC 137...277V AC 278...600V AC 208...277V AC*	4	100-DFSV55
					100-DFSV136
					100-DFSV277
					100-DFSV575
					100-DFSV550
					5

* For overvoltage category IV (IEC 947 for 100-D...-E) e.g., lightning protection requirements.

Connecting Components








	Description	Output Connection	For Use With NEMA Sizes		Terminal Connection	Cat. No.
			4	5		
	Reversing: Input Connection Wye-Delta: Main-Delta connection	50 mm ²	X		Lugs, 100-DL...	100-D180-VL
		120 mm ²		X		100-D420-VL
	Reversing: Output Connection Wye-Delta: Delta-Wye connection	50 mm ²	X		Terminal Blocks, 100-DTB...	100-D180-VLTB
		120 mm ²		X		100-D420-VLTB
	Delta-Wye connection if 100-D95...180 is used as a Wye contactor	50 mm ²		X	Lugs, 100-DL...	100-D180-VT
		120 mm ²		X		100-D420-VT
	Wye-Delta: Neutral bridge	50 mm ²	X		Terminal Blocks, 100-DTB...	100-D180-VTTB
		120 mm ²		X		100-D420-VTTB
	Power Wiring Kits (for contactors using 100-DL lug kits)	80 mm ²		X	Terminal Blocks, 100-DTB...	100-D420-VYTB
		—	X		—	100-D180-VYU
	Wye-Delta: Neutral bridge	—		X	—	100-D420-VYU
		—	X		—	
	Power Wiring Kits (for contactors using 100-DL lug kits)	NEMA Size 4 • Reversing • Two-speed, or changeover • Wye-Delta/Star-Delta				100-DPW180 100-D180-VL 100-DPY180
		NEMA Size 5 • Reversing • Two-speed, or changeover • Wye-Delta/Star-Delta				100-DPW420 100-D420-VL 100-DPY420

	Description	For Use With NEMA Sizes		Cat. No.
	Terminal Lugs Set of two Protection class IP2X per IEC 60529 and DIN 40050	4, 193-EC_F, 193-EE_F		100-DTB180
		5, 193-EC_G, 193-EF2C, 193-EE_G		100-DTB420
	Terminal Lugs (UL/CSA), Copper Frame Set of three	4, 193-EC_F, 193-EE_F		100-DL180
		5, 193-EC_G, 193-EE_G		100-DL420
	Terminal Lugs (UL/CSA), Aluminum Frame Set of three	4		100-DLA180
		5		100-DLA420
	Control Circuit Terminal 2 x 2.5 mm ²	4		100-DAT1
		5		100-DAT2
	Terminal Shields Set of 2 Protection class IP10 per IEC 60529 and DIN 40 050 For direct-on-line, reversing, two-speed, and wye-delta/star-delta assemblies	4		100-DTS180
		5		100-DTS420
	Terminal Covers Protection class IP20 per IEC 60529 and DIN 40 050 For direct-on-line, reversing, two-speed, and wye-delta/star-delta assemblies	4, 193-EC_F, 193-EE_F		100-DTC180
		5, 193-EC_G, 193-EE_G		100-DTC420
	Mounting Plate Galvanized steel plate for starter combinations For direct-on-line, reversing, two-speed, wye-delta/star-delta, and Dahlander assemblies	4	Direct-on-line	100-DMS180
			Reversing, two-speed or changeover	100-DMU180
			Y-Δ or Dahlander	100-DMY180
		5	Direct-on-line	100-DMS420
			Reversing, two-speed or changeover	100-DMU420
Y-Δ or Dahlander	100-DMY420			
Mounting Plate For two-speed or changeover switches	For interlocking between two size 4 contactors		100-DMU85	

AC Contactor

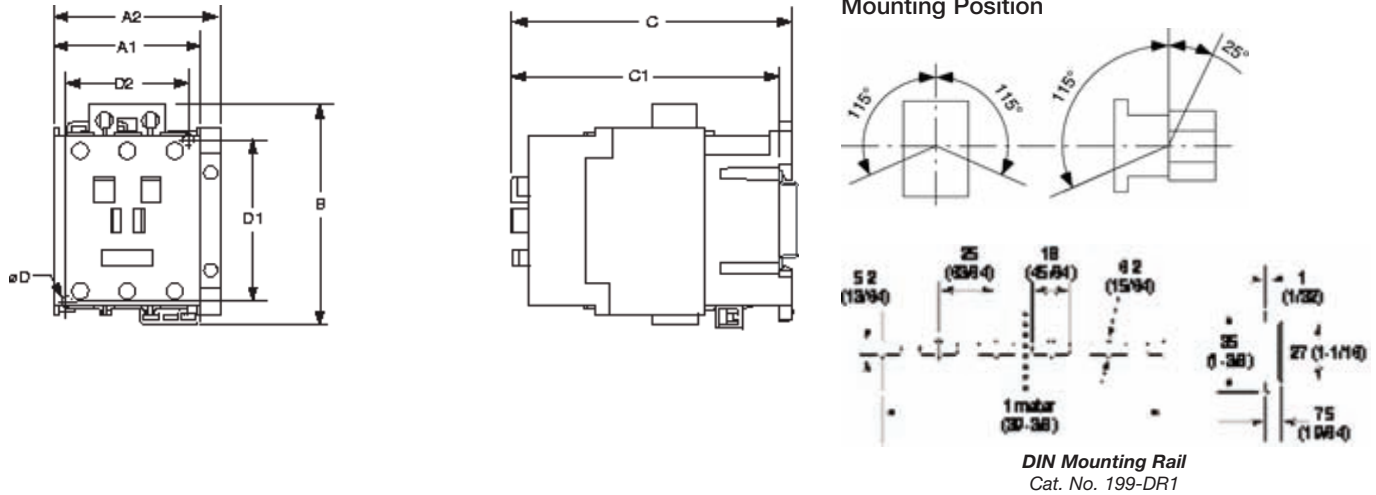
Accessories, Continued

Interlocks

	Description	Circuit Diagram	For Use With NEMA Sizes	Cat. No.
	Interlock — Mechanical Only No additional space required		4...5	100-DMA00
	Interlock — Dual Electrical/Mechanical No additional space required Two N.C. auxiliary contacts		4...5	100-DMD02
	Interlock — Mechanical Only No additional space required		4...5	100-DMD00
	Interlock — Mechanical Only Provides interlocking between size 3 and size 4 contactors.		3...4	100-DMC00
	Interlock — Dual Electrical/Mechanical Provides interlocking between size 3 and size 4 contactors. Two N.C. auxiliary contacts		3...4	100-DMC02

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended to be used for manufacturing purposes.

Contactors and Accessories



AC Contactors

Cat. No.	NEMA Size	A1	A2	B	C	C1	Mounting Dimensions		
							ØD	D1	D2
300-AO_	0	1.76 (45)	—	3.19 (81)	3.39 (86)	3.19 (81)	0.17 (4.5)	2.36 (60)	1.38 (35)
300-BO_	1	—	2.12 (54)	3.19 (81)	4.06 (103)	3.86 (98)	0.17 (4.5)	2.36 (60)	1.38 (35)
300-CO_	2	—	2.48 (63)	3.19 (81)	4.17 (106)	3.98 (101)	0.17 (4.5)	2.36 (60)	1.77 (45)
300-DO_	3	—	3.19 (81)	4.80 (122)	4.80 (122)	4.61 (117)	0.22 (5.4)	3.94 (100)	2.17 (55)

Accessories

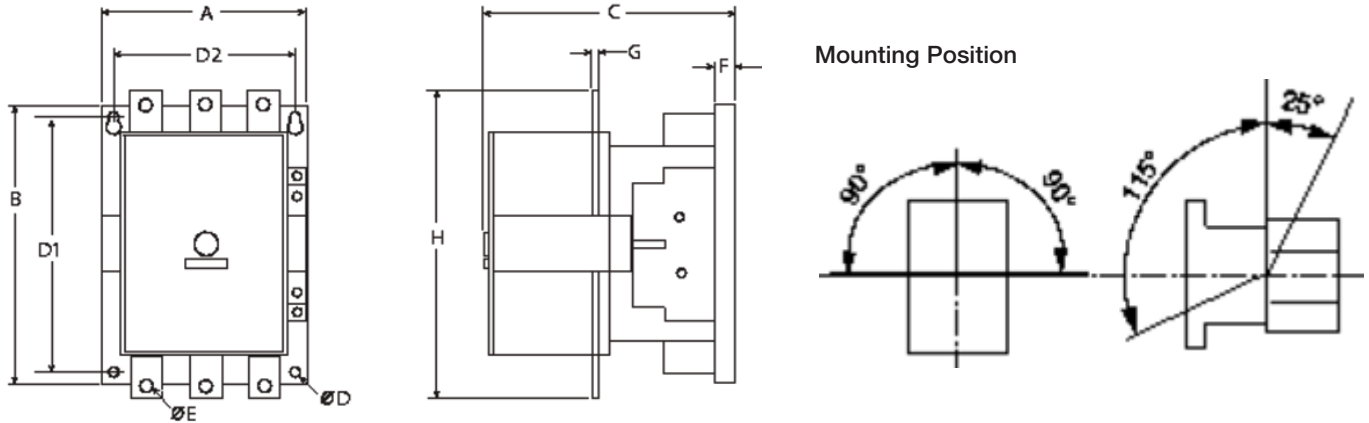
Contactors with		inches (mm)
Auxiliary contact block for front mounting	2- or 4-pole	C/C1 + 1.54 (39)
Auxiliary contact block for side mounting	1- or 2-pole	A + 0.35 (9)
Pneumatic Timing Module		C/C1 + 2.28 (58)
Electronic Timing Module	on coil terminal side	B + 0.94 (24)
Mechanical Interlock	on side of contactor	A + 0.35 (9)
Mechanical Latch		C/C1 + 2.40 (61)
Interface Module	on coil terminal side	B + 0.35 (9)
Surge Suppressor	on coil terminal side	B + 0.12 (3)
* Labeling with	label sheet marking tag sheet with clear cover marking tag adapter for System V4/V5 marking tag adapter for System Bul. 1492W	+ 0 + 0 + 0.22 (5.5) + 0.22 (5.5)

AC Contactor

Approximate Dimensions, Continued

Approximate dimensions are shown in Inches (millimeters). Dimensions are not intended to be used for manufacturing purposes.

Contactors and Accessories, Continued



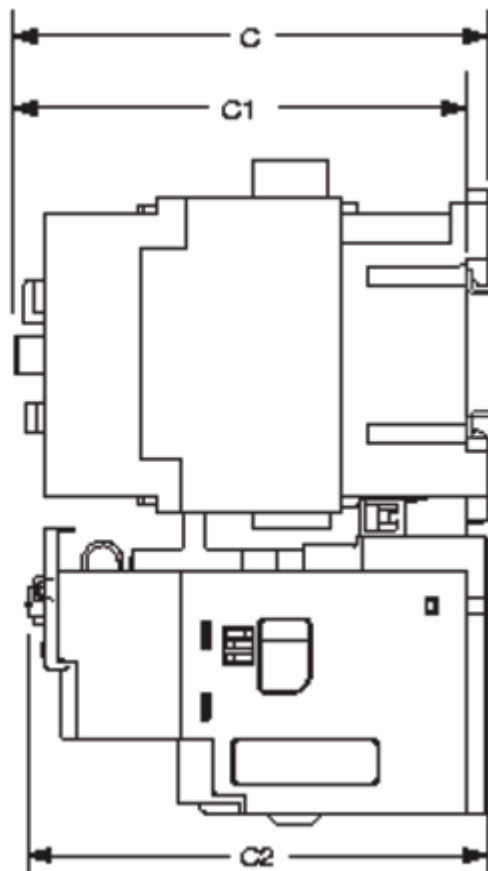
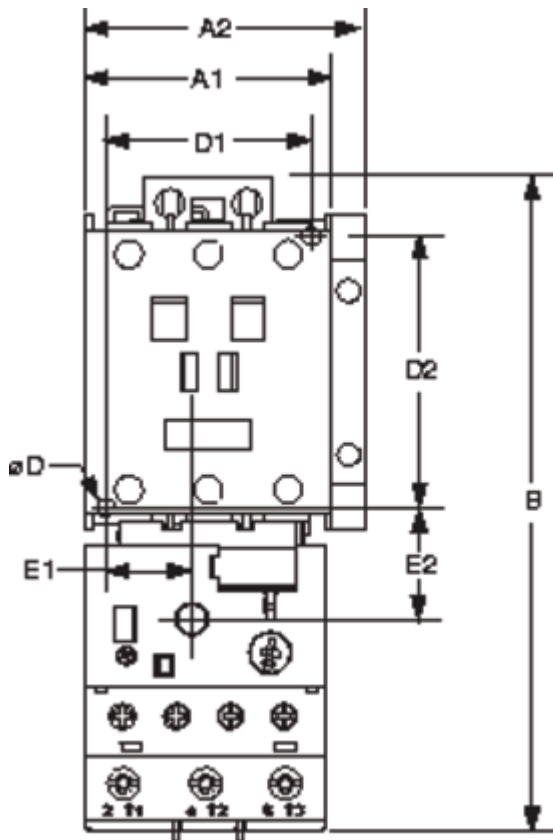
Cat. No.	NEMA Size	A	B	C	Mounting Dimensions			ØE	F	G	H
					ØD	D1	D2				
300-EO_	4	4.72 (120)	6.69 (170)	6.14 (156)	0.21 (5.2)	5.71 (145)	3.94 (100)	0.34 (8.5)	0.59 (15)	0.157 (4)	7.17 (182)
300-FO_	5	6.10 (155)	8.07 (205)	7.09 (180)	0.26 (6.5)	7.09 (180)	5.12 (130)	0.41 (10.4)	0.59 (15)	0.236 (6)	8.74 (222)

Contactors with		in. (mm)
Auxiliary contact block *	100-DS1... 100-DS2...	A A + 0.53 (13.5) each
Mechanical Interlock	100-DM...	A + A
Frame terminal block	100-DTB110	B + 0.28 (7) each
	100-DTB180	B + 0.28 (7) each
	100-DTB420	B + 0.33 (8.5) each
Label holder		C...+ 0.20 (5) each

* Conventional DC coil contactors will accept only Cat. No. 100-DS2... auxiliary contacts.

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended to be used for manufacturing purposes.

E1 Plus Solid-State Overload Relays



Cat. No.	NEMA Size	A1	A2	B	C	C1	C2	Mounting Dimensions			Reset Location	
								ØD	D1	D2	E1	E2
193*-EE_B	0	1.76 (45)	—	3.19 (81)	3.39 (86)	3.19 (81)	3.98 (101)	0.17 (4.5)	2.36 (60)	1.38 (35)	2.36 (60)	1.38 (35)
193*-EE_D	1	—	2.12 (54)	3.19 (81)	4.06 (103)	3.86 (98)	3.98 (101)	0.17 (4.5)	2.36 (60)	1.38 (35)	2.36 (60)	1.38 (35)
193*-EE_E	2	—	2.48 (63)	3.19 (81)	4.17 (106)	3.98 (101)	3.98 (101)	0.17 (4.5)	2.36 (60)	1.77 (45)	2.36 (60)	1.77 (45)
193*-EE_E	3	—	3.19 (81)	4.80 (122)	4.80 (122)	4.61 (117)	4.74 (120)	0.22 (5.4)	3.94 (100)	2.17 (55)	3.94 (100)	2.17 (55)

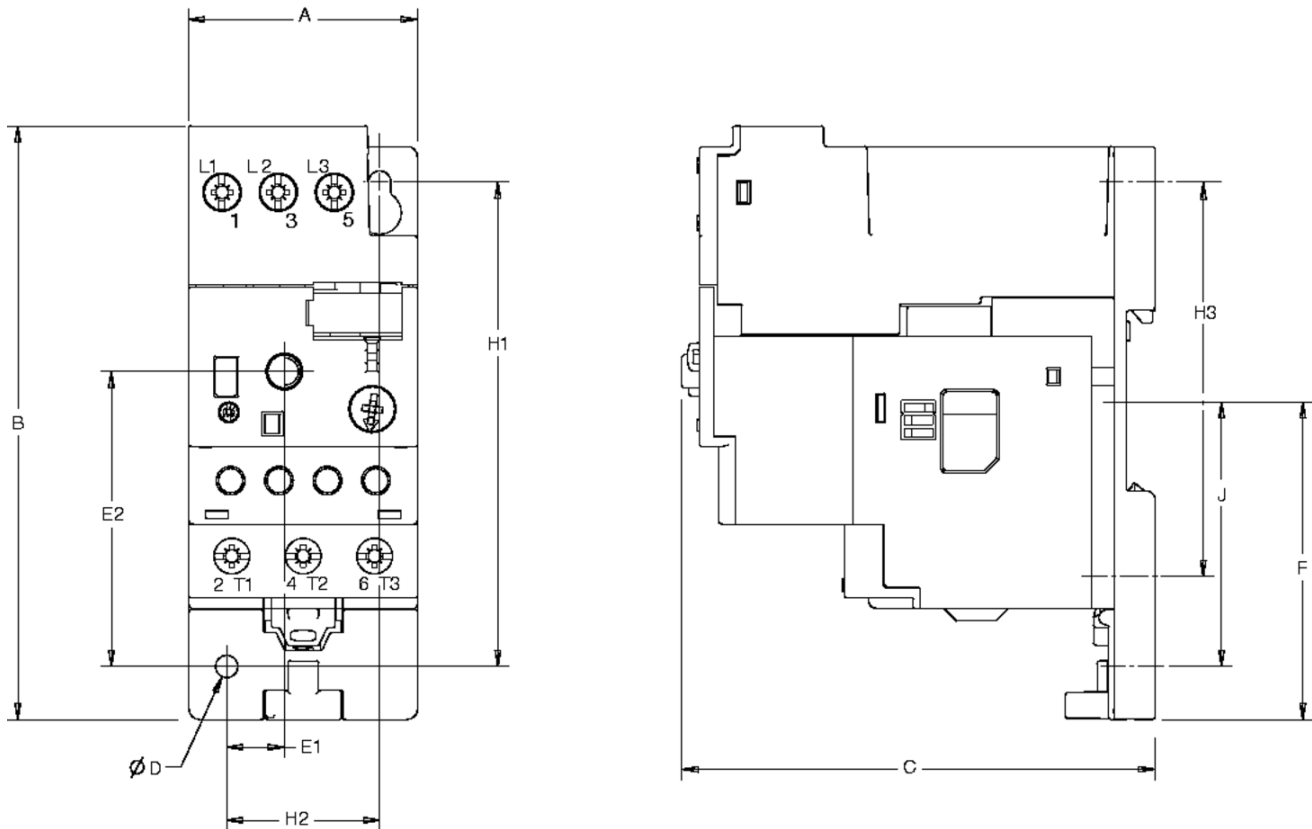
* Valid for Bulletin Nos. 193, 193R, and 193S.

AC Contactor

Approximate Dimensions, Continued

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended to be used for manufacturing purposes.

Panel Adapter Mounted



Panel Adaptor Cat. No.	Overload Cat. No.	A Width	B Height	C Depth	D	E1	E2	F	H1	H2	H3	J
193-EPD	193-EE_D 193R-EE_D 193S-EE_D	1.77 (45)	4.43 (112)	4.29 (109)	0.17 (4.4)	0.45 (11)	2.28 (58)	2.48 (63)	3.75 (95)	1.19 (30)	2.95 (75)	2.05 (52)
193-EPE	193-EE_E 193R-EE_E 193S-EE_E	2.83 (72)	4.23 (107)	5.00 (127)	0.22 (5.5)	1.04 (26)	2.17 (55)	1.89 (48)	3.54 (90)	2.36 (60)	—	1.69 (43)

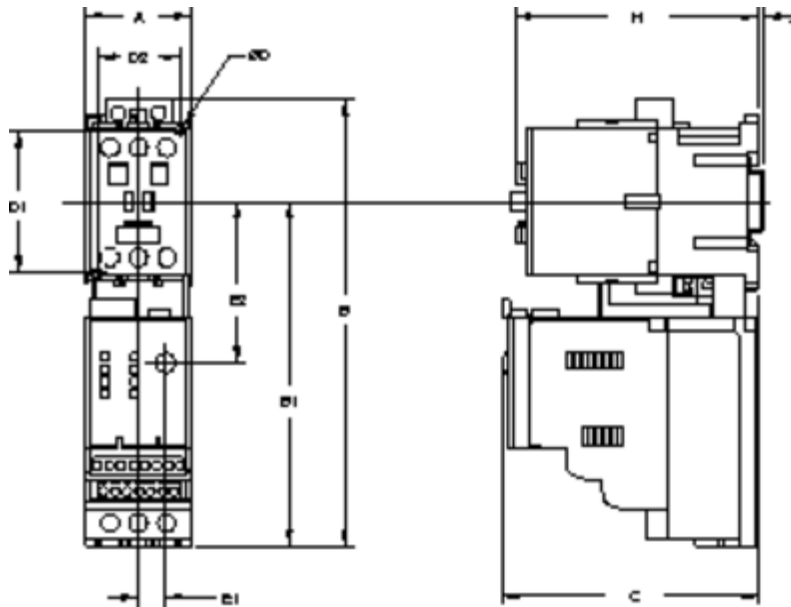
DIN Rail / Panel Adapter — Terminal Cross Sections

		Cat. No. 193-EPB *	Cat. No. 193-EPD *	Cat. No. 193-EPE
Flexible-Stranded with Ferrule	Single Conductor	1.0...4.0 mm ²	2.5...16 mm ²	4.0...35 mm ²
	Torque	1.8 N·m	2.3 N·m	4.0 N·m
	Two Conductor	1.0...4.0 mm ²	2.5...10 mm ²	4.0...25 mm ²
	Torque	1.8 N·m	2.3 N·m	4.0 N·m
Coarse-Stranded/Solid	Single Conductor	1.5...6.0 mm ²	2.5...25 mm ²	4.0...50 mm ²
	Torque	1.8 N·m	2.3 N·m	4.0 N·m
	Two Conductor	1.5...6.0 mm ²	2.5...16 mm ²	4.0...35 mm ²
	Torque	1.8 N·m	2.3 N·m	4.0 N·m
Stranded/Solid	Single Conductor	14...8 AWG	16...6 AWG	12...1 AWG
	Torque	16 lb·in	20 lb·in	35 lb·in
	Two Conductor	14...10 AWG	16...6 AWG	12...2 AWG
	Torque	16 lb·in	20 lb·in	35 lb·in

* For multiple conductor applications, the same size and style wire must be used.

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended to be used for manufacturing purposes.

Bulletin 300 Contactor with E3, E3 Plus Overload Relay

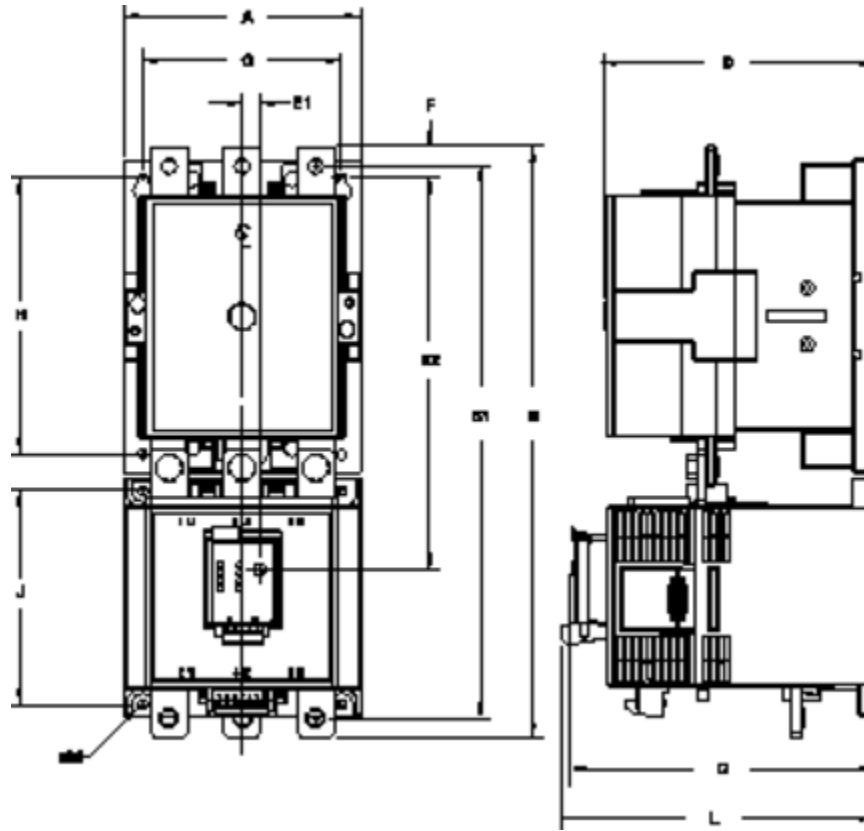


Overload Cat. No.	NEMA Size	A Width	B Height		B1	C Depth	E1	E2	D1	D2	H	J	ØD
			without 193- EIMD	with 193- EIMD									
193-EC_B	0	1.77 (45)	7.40 (188)	8.19 (208)	5.71 (145)	4.21 (107)	0.43 (11)	2.68 (68)	2.36 (60)	1.38 (35)	3.35 (85)	0.08 (2)	0.17 (4.5)
193-EC_D	1...2	1.77 (45)	7.40 (188)	8.19 (208)	5.71 (145)	4.21 (107)	0.43 (11)	2.68 (68)	2.36 (60)	1.38 (35)	4.09 (104)	0.08 (2)	0.17 (4.5)
193-EC_E	3	2.83 (72)	9.29 (236)	10.08 (256)	6.81 (173)	4.92 (125)	0.43 (11)	3.54 (90)	3.94 (100)	2.17 (55)	4.96 (126)	0.08 (2)	0.22 (5.4)

AC Contactor

Approximate Dimensions, Continued

Approximate dimensions are shown in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.



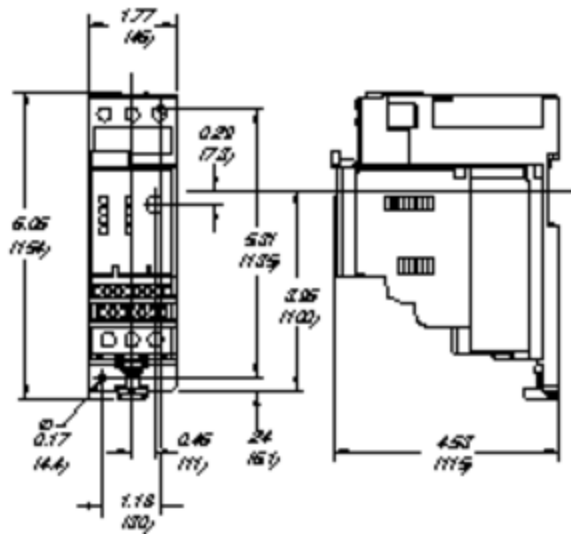
Overload Cat. No.	NEMA Size	A Width	B Height		B1	C Depth	D	E1	E2
			without Terminal Covers	with Terminal Covers					
193-EC__F	4	4.72 (120)	13.4 (340)	16.5 (418)	12.5 (318)	6.89 (175)	6.14 (156)	0.43 (11)	8.50 (216)
193-EC__G	5	6.10 (155)	15.2 (386)	19.2 (487)	14.2 (361)	7.83 (199)	7.09 (180)	0.43 (11)	10.0 (255)

Overload Cat. No.	NEMA Size	F	G	H	J	K	L	M
193-EC__F	4	0.63 (16)	3.94 (100)	5.71 (145)	5.31 (135)	0.87 (22)	7.13 (181)	0.21 (5.2)
193-EC__G	5	0.83 (21)	5.12 (130)	7.09 (180)	5.51 (140)	0.94 (24)	8.07 (205)	0.26 (6.5)

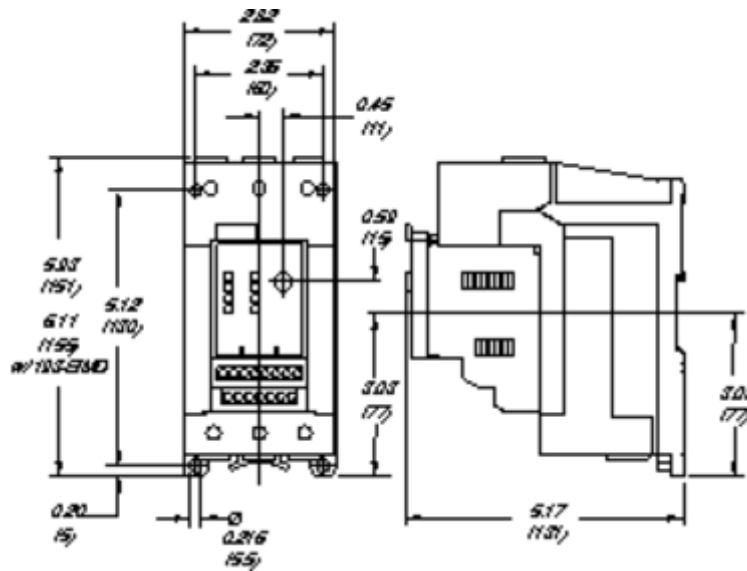
Approximate dimensions are shown in inches (millimeters). Dimensions are not intended to be used for manufacturing purposes.

Panel Mount Adapters

(For Use With Cat. No. 193-EC_D, 193- EC_ZZ)



(For Use With Cat. No. 193-EC_E)



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