NEMA Feed-Through AC Contactors

Product Selection — Modular Kit

Product Selection of NEMA sizes 0…4 by Modular Kits

Base Contactor
Includes a 120V AC coil and (1) N.O. auxiliary contactor as standard.

NEMA Size	Continuous Ampere Rating [A]	Maximum Horsepower Rating Full Load Current Must Not Exceed "Continuous Ampere Rating"						3 Power Poles • 600V AC Maximum • 60 Hz
		1-Phase Motor Voltage		3-Phase Motor Voltage				
		115V	230V	200V	230V	50 Hz 380…415V	460…575V	Cat. No.
0	18	—	3	3	3	5	5	**500F-AO⊗930**
1	27	—	7.5	7.5	7.5	10	10	**500F-BO⊗930**
2	45	—	15	10	15	25	25	**500F-CO⊗930**
3	90	—	30	25	30	50	50	500F-DO⊗930
4	135	—	50	40	50	75	100	**500F-EO⊗930**
5	270	—	—	75	100	150	200	♣

♣ See page 1-38 for NEMA size 5 contactors.

⊗ Coil Voltage Code

The cat. no. as listed is incomplete. Select a coil voltage code from the table below to complete the cat. no.
Example: **Cat. No. 500F-AO⊗930** becomes **Cat. No. 500F-AOD930**. For other voltages, please consult your local Rockwell Automation sales office or Allen-Bradley distributor.

[V]	24	110	120	125	208	220	240	250	277	380	415	440	480	550	600
AC, 50 Hz	J	D	—	—	—	A	—	—	—	N	I	B	—	C	—
AC, 60 Hz	J	—	**D**	—	**H**	—	**A**	—	F	—	—	—	**B**	—	**C**
DC➢	VL	—	—	VG	—	—	—	VG	—	—	—	—	—	—	—

➢ DC voltage code is only available for NEMA sizes 0…3. When ordering a DC voltage code (VL or VG), add "C" to the catalog number. Example: **Cat. No. 500FC-BOVL930**.

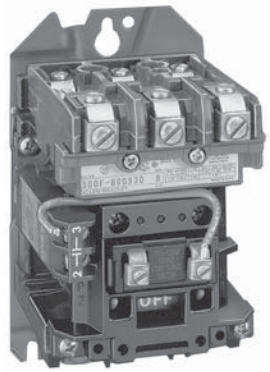
Note: The base contactor includes a 120V AC coil as standard. For all other voltages, a second coil will be included in the modular kit for field swap out.

Options for Modular Kit

Options	
Code	Description
17	Surge Suppressor for 120 or 240V AC Coil
90	(1) N.O. Auxiliary Contact✶
91	(1) N.C. Auxiliary Contact✶

✶ Up to (6) combinations of auxiliary contacts can be selected. Example: Code 90011 indicates (2) N.O. and (2) N.C. contacts.

Example: Cat. No. 500F-COD930-17-90 includes a NEMA size 2, 3-pole, contactor with a 120V AC coil, surge suppressor, and (1) N.O. auxiliary contact.



Size 1, 3-Pole
Open Type without Enclosure
Feed-Through Construction
with Auxiliary Contact

Bulletin 500F Open Type Feed-Through Contactor

- Feed-through construction
- Contactor can be field wired for single- or three-phase applications

NEMA sizes 0…4 (open type)
- Available as components or a modular kit for faster delivery
- Product selection can be done via two options:
  – Ordering a complete kit
  – Ordering individual components
- Feed-through contactor includes a 120V AC coil and (1) N.O. auxiliary contact, as standard

NEMA size 5 (open type)
- Available as factory assembled

Table of Contents

1

Standards Compliance

NEMA/EEMAC ICS 2
UL 508
CSA C22.2 No.14
ABS 4/5.115 — American Bureau of Shipping
UCSG 46 CFR 111.70
IEEE 45
EN/IEC 60947-4-1

Certifications

CE Marked
CSA Certified (LR1234)
UL Listed (File No. E3125, Guide No. NLDX)

Catalog Number Explanation

For flexibility, devices may be ordered in a convenient modular kit or as individual components.

A modular kit includes:
- Base contactor
- Selectable options
- Selectable coil voltage

Modular Kit Example Cat. No.

500F	–	B	O	D	–	930	–	17
		a	*b*	*c*	*d*	*e*		*f*

a

Bulletin No.	
Bulletin No.	Description
500F	Feed-through contactor
500FC	Feed-through contactor (DC voltage)

b

NEMA Size	
Code	Description
A	0
B	1
C	2
D	3
E	4

c

NEMA Enclosure Type	
Code	Type
O	No enclosure

d

Nominal Coil Voltage		
Code	Voltage	Frequency
A	220V 240V	50 Hz 60 Hz
B	440V 480V	50 Hz 60 Hz
C	550V 600V	50 Hz 60 Hz
D	110V 120V	50 Hz 60 Hz
F	277V	60 Hz
H	200…208V	60 Hz
I	415V	50 Hz
J	24V	50/60 Hz
N	380V	50 Hz
VL	24V DC	—
VG	125…250V DC	—

e

Number of Poles	
Code	Voltage Description
930	Three Power Poles and (1) N.O. Auxiliary Contact

f

Options	
Code	Voltage Description
17	Surge Suppressor for 120 or 240V AC Coil
90	(1) N.O. Auxiliary Contact*
91	(1) N.C. Auxiliary Contact*

* Up to (6) combinations of auxiliary contacts can be selected. Example: Code 90011 indicates (2) N.O. and (2) N.C. contacts.

NEMA Specifications

NEMA Non-Combination and Combination Contactors/Starters

Electrical Ratings

NEMA Size	Load Voltage [V]	Continuous Current Rating [A]	Service Limit Current Rating [A]✶	Maximum Hp Rating (Non-plugging and non-jogging duty)		Maximum Hp Rating (Plugging and jogging duty)❄		Transformer Primary Switching kVa Rating (Inrush Current ≤ 20 times Continuous Current)		Transformer Primary Switching kVa Rating (Inrush Current = 20 to 40 times Continuous Current)		Capacitor Switching kVAR‡	Maximum Circuit Closing Inrush Current [A] Peak Including Offset
				1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	3Ø	3Ø
00	115	9	11	1/3	—	1/4	—	—	—	—	—	—	87
	200			—	1-1/2	—	1	—	—	—	—	—	
	230			1	1-1/2	1/2	1	—	—	—	—	—	
	380			—	1-1/2	—	1	—	—	—	—	—	
	460			—	2	—	1-1/2	—	—	—	—	—	
	575			—	2	—	1-1/2	—	—	—	—	—	
0	115	18	21	1	—	1/2	—	0.6	—	0.3	—	—	140
	200			—	3	—	1-1/2	—	1.8	—	0.9	—	
	230			2	3	1	1-1/2	1.2	2.1	0.6	1	—	
	380			—	5	—	1-1/2	—	—	—	—	—	
	460			—	5	—	2	2.4	4.2	1.2	2.1	—	
	575			—	5	—	2	3	5.2	1.5	2.6	—	
1	115	27	32	2	—	1	—	1.2	—	0.6	—	—	288
	200			—	7-1/2	—	3	—	3.6	—	1.8	—	
	230			3	7-1/2	2	3	2.4	4.3	1.2	2.1	6	
	380			—	10	—	5	—	—	—	—	—	
	460			—	10	—	5	4.9	8.5	2.5	4.3	13.5	
	575			—	10	—	5	6.2	11	3.1	5.3	17	
1P	115	36	42	3	—	1-1/2	—	—	—	—	—	—	—
	230			5	—	3	—	—	—	—	—	—	—
2	115	45	52	3	—	2	—	2.1	—	1	—	—	483
	200			—	10	—	7-1/2	—	6.3	—	3.1	—	
	230			7-1/2	15	5	10	4.1	7.2	2.1	3.6	12	
	380			—	25	—	15	—	—	—	—	—	
	460			—	25	—	15	8.3	14	4.2	7.2	25	
	575			—	25	—	15	10	18	5.2	8.9	31	
3	115	90	104	7-1/2	—	7-1/2	—	4.1	—	2	—	—	947
	200			—	25	—	15	—	12	—	6.1	—	
	230			15	30	15	20	8.1	14	4.1	7.0	27	
	380			—	50	—	30	—	—	—	—	—	
	460			—	50	—	30	16	28	8.1	14	53	
	575			—	50	—	30	20	35	10	18	67	
4	115	135	156	—	—	—	—	6.8	—	3.4	—	—	1581
	200			—	40	—	25	—	20	—	10	—	
	230			—	50	—	30	14	23	6.8	12	40	
	380			—	75	—	50	—	—	—	—	—	
	460			—	100	—	60	27	47	14	23	80	
	575			—	100	—	60	34	59	17	29	100	
5	115	270	311	—	—	—	—	14	—	6.8	—	—	3163
	200			—	75	—	60	—	41	—	20	—	
	230			—	100	—	75	27	47	14	24	80	
	380			—	150	—	125	—	—	—	—	—	
	460			—	200	—	150	54	94	27	47	160	
	575			—	200	—	150	68	117	34	59	200	
6	115	540	621	—	—	—	—	27	—	14	—	—	6326
	200			—	150	—	125	—	81	—	41	—	
	230			—	200	—	150	54	94	27	47	160	
	380			—	300	—	250	—	—	—	—	—	
	460			—	400	—	300	108	188	54	94	320	
	575			—	400	—	300	135	234	68	117	400	
7	230	810	932	—	300	—	—	—	—	—	—	240	9470
	460			—	600	—	—	—	—	—	—	480	
	575			—	600	—	—	—	—	—	—	600	
8	230	1215	1400	—	450	—	—	—	—	—	—	360	14205
	460			—	900	—	—	—	—	—	—	720	
	575			—	900	—	—	—	—	—	—	900	
9	230	2250	2590	—	800	—	—	—	—	—	—	665	25380
	460			—	1600	—	—	—	—	—	—	1325	
	575			—	1600	—	—	—	—	—	—	1670	

✶ **Service-Limit Current Ratings —** The service-limit current ratings shown represent the maximum rms current, in amperes, which the controller shall be permitted to carry for protracted periods in normal service. At service-limit current ratings, temperature rises shall be permitted to exceed those obtained by testing the controller at its continuous current rating. The current rating of overload relays or the trip current of other motor protective devices used shall not exceed the service-limit current rating of the controller.

❄ **Plugging or Jogging Service —** The listed horsepower ratings are recommended for those applications requiring repeated interruption of stalled motor current encountered in rapid motor reversal in excess of five openings or closings per minute and shall not be more than ten in a ten minute period.

‡ If maximum available current (at capacitor terminals) is greater than 3000 A, please contact your local Rockwell Automation sales office, Allen-Bradley distributor, or NEMA ICS-2 Standard.

Mechanical Ratings

NEMA Size	Mechanical Life (Millions of Operations)	Maximum Number of Auxiliary Contacts	Operating Time [ms]	
			Pick-up (Average)	Drop-out (Average)
00	10	5	20	16
0	10	8	21	16
1	10	8	22	14
2	10	8	27	13
3	5	8	37	20
4	5	8	27	20
5	5	8	25	18
6	5	4	25…79	10…22
7	—	8	88	40
8	—	8	88	45
9	—	8	118	84

Construction

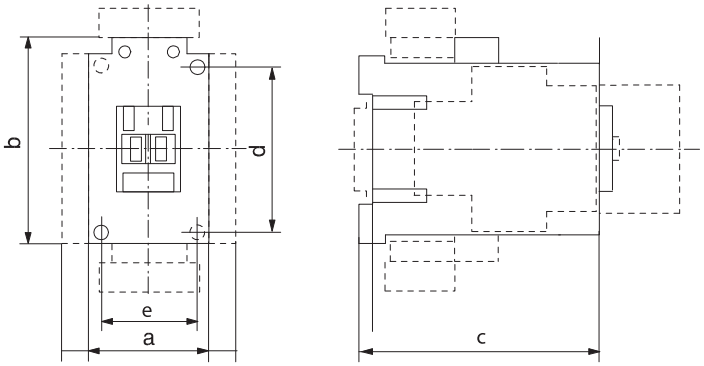
NEMA Size	Wire Size for Power Terminals	Required Torque on Power Terminal Wire Clamps and Pressure Connectors or Lugs	Type of Power Terminal	Contact Material		Requirements for Sizing of Wire
				Power Contacts	Auxiliary Contacts	
00	#16…10 AWG	9 lb•in	Pressure terminals	Silver alloy	Silver	All wire rated 167 °F (75 °C) or higher must be sized per the local Electrical Code for 167°F (75 °C) wire.
0	#14…10 AWG	20 lb•in	Saddle or wire clamps			
1	#14…8 AWG	20 lb•in				
2	#14…4 AWG	45 lb•in	Pressure terminals			
3	#8…1/0 AWG	150 lb•in				
4	#6…4/0 AWG	275 lb•in				
5	#4 AWG…500 MCM	375 lb•in				
6	Lugs sold separately. See page 1-113.					
7						
8						
9	Direct bus connections only.					

Environmental

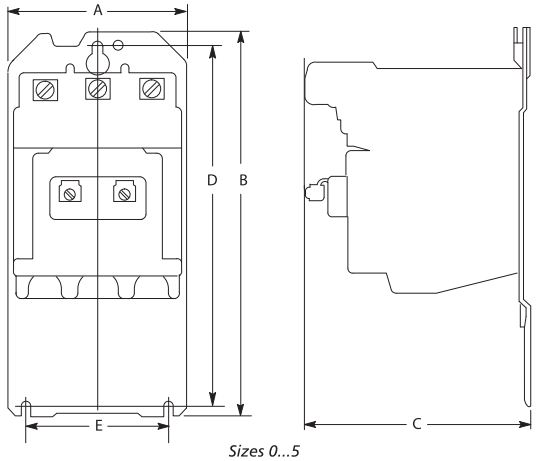
NEMA Size	Operating Position	Operating Temperature Range	Altitude	Corrosion-Resistance
00	Horizontal	Starters with eutectic alloy Overload relay –13…+149 °F (–25…+65 °C) Starters with SMP Overload relay –13…+131 °F (–25…+55 °C) (provided condensation is prevented)	10 000 feet before derating	All metal parts are treated for corrosion-resistance
0	Vertical			
1				
2				
3				
4				
5				
6	Horizontal			
7	Vertical			
8				
9				

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

Open Type without Enclosure for Bulletin 500 and 500F Contactors — NEMA sizes 0…4



Sizes 00



Sizes 0...5

NEMA Size	Number of Switching Poles	Dimensions in Inches (Millimeters)					Approximate Shipping Weight [lb (kg)]
		A Width	B Height	C Depth	D	E	
0…1	2…3	3-9/16 (90.5)	7-5/8 (193)	4-15/32 (113)	7-1/16 (180)	2-3/4 (70)	3 (1.4)
	4	4-3/8 (111)					3-1/2 (1.6)
	5	4-15/16 (125)					4-3/4 (2.2)
2	2…3	3-15/16 (100)	9-25/32 (248)	4-23/32 (120)	9-1/4 (235)	3-5/32 (80)	4 (1.8)
	4	4-31/32 (126)					4-3/4 (2.2)
	5	5-1/2 (140)					6-1/4 (2.8)
3	2…3	6-1/8 (155.5)	10-3/64 (255)	6-19/32 (167.4)	8-21/32 (220)	5-33/64 (140)	14.5 (6.5)
	4	7-15/16 (201.6)					16 (7.25)
	5	8-13/16 (223.8)					18 (8)
4	2…3	7 (178)	12-11/64 (309)❄	7-13/16 (198.4)	9-27/32 (250)	6-5/16 (160)	22 (10)
	4	9-1/16 (230.2)					25.5 (11.5)
	5	10-7/16 (265.1)					28.5 (13)

❄ For Feed-Through Wiring this dimension is 11-11/16 in. (297 mm).