

Definite purpose Contactors



Definite purpose contactors
For applications up to 90 FLA



Applications

Type DP contactors provide high performance with flexibility and reliability, designed to match numerous applications including:

- Motors
- Power supplies
- Food service equipment
- Compressors
- Business machines
- Resistive heating
- Air conditioning
- Refrigeration equipment
- Welding

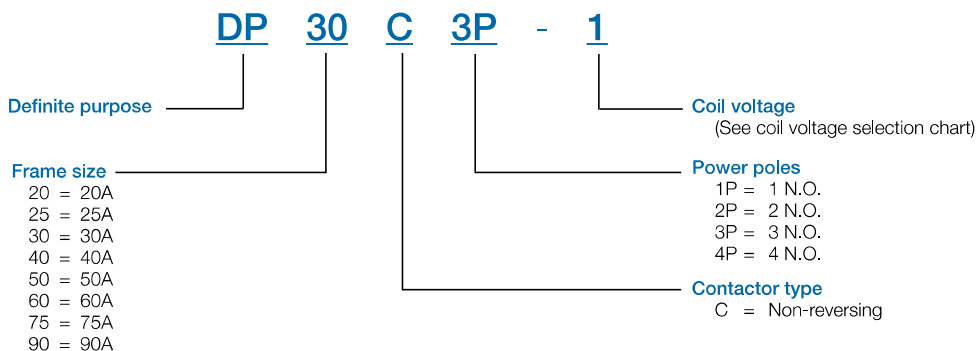
Agency approvals

- UL 508 Guide No. NLDX2, File # E224401
- CSA C22.2 No. 221260 (1456104)
Class 3211 04 / 3211 84
- CE/Semko Certified, EN60947-4-1:2001

Features

- Available as:
 - 20A, 25A, 1, 2 or 3 pole
 - 30A, 1, 2, 3 or 4 pole
 - 40A, 2, 3 or 4 pole
 - 50-90A, 3 pole
- Industry standard mounting plate provides easily accessible mounting holes
- Coil terminals are provided with #6-32 screws and (1) .250 quick connect or dual .250 quickconnect terminals
- Exclusive hex, slotted, phillips #10-32 terminal screws for main terminals
- Coil is class B (130° C) insulation system with a wide range of voltages and 50/60 Hz ratings
- Double E magnet assembly provides optimal performance with reduced power consumption
- Snap-in auxiliary switch with 1 SPDT or 2 SPDT contacts available as an option
- 1 N.O. & 1 N.C. auxiliary contact block with 600 VAC rating available as an option
- Base assembly is made from high arc-resistant polyesterplastic

Catalog number explanation



DP non-reversing 1, 2, 3 & 4 pole

For definite purpose applications up to 90 FLA
AC operated coils



DP20C1P...
DP40C1P



DP20C3P...
DP30C3P



DP40C4P

Electrical ratings

AC definite purpose controller ratings				AC resistance air heating, per pole (A)	AC motor ratings, breaking all lines (hp)				
Full load amperes (FLA)	Locked rotor Amperes, breaking all lines (LRA) ①				Single phase		Three phase		
	220...240 / 277V	440... 480V	550... 600V		600V ②	110... 120V	220... 240V	220... 240V	440... 480V
20	120	100	80	30	-	-	-	-	-
25	150	125	100	35	-	-	-	-	-
30	180	125	100	40	-	-	-	-	-
40	240	160	120	50 ④	-	-	-	-	-
20	120	100	80	30	-	-	-	-	-
25	150	125	100	35	-	-	-	-	-
30	180	125	100	40	-	-	-	-	-
40	240	160	120	50 ④	-	-	-	-	-
20	120	100	80	30	1.5	3	7.5	7.5	7.5
25	150	125	100	35	2	5	7.5	15	20
30	180	150	120	40	2	5	10	15	20
40	240	200	160	50 ⑤	3	7.5	10	20	25
50	300 ③	250	200	65	3	7.5 ⑥	15 ⑥	25	25
60	360 ③	300	240	75	5	10 ⑥	25 ⑥	30	30
75	450 ③	375	300	90	5	15	25 ⑥	40	40
90	540 ③	450	360	120	7.5	20	30 ⑥	50	50
20	120	100	80	30	1.5	3	7.5	7.5	7.5
25	150	125	100	35	2	5	7.5	15	20
30	180	150	120	40	2	5	10	15	20
40	240	200	160	50 ⑤	3	7.5	10	20	25

Note: 1-pole devices in 2-pole frame with shunt included.

Electrical ratings

Catalog number	Catalog number (bulk pack)	Bulk qty.
DP20C1P-Δ	DP20C1P-Δ/B	50
DP25C1P-Δ	DP25C1P-Δ/B	
DP30C1P-Δ	DP30C1P-Δ/B	
DP40C1P-Δ	DP40C1P-Δ/B	
DP20C2P-Δ	DP20C2P-Δ/B	50
DP25C2P-Δ	DP25C2P-Δ/B	
DP30C2P-Δ	DP30C2P-Δ/B	
DP40C2P-Δ	DP40C2P-Δ/B	
DP20C3P-Δ	DP20C3P-Δ/B	25
DP25C3P-Δ	DP25C3P-Δ/B	
DP30C3P-Δ	DP30C3P-Δ/B	
DP40C3P-Δ	DP40C3P-Δ/B	
DP50C3P-Δ	-	
DP60C3P-Δ	-	
DP75C3P-Δ	-	
DP90C3P-Δ	-	
DP20C4P-Δ	DP20C4P-Δ/B	25
DP25C4P-Δ	DP25C4P-Δ/B	
DP30C4P-Δ	DP30C4P-Δ/B	
DP40C4P-Δ	DP40C4P-Δ/B	

Coil voltage selection chart (Δ)

Control circuit voltage	Control circuit voltage
24V 60 Hz	F
120V/60	1
208/240V AC	2
277V AC	C
480V AC	4
575/600V 60 Hz	6

DP ratings for AF & AS/ASL

ABB has additionally performed definite purpose testing for air conditioning (h.r.c.) applications with AF and AS/ASL series contactors. Please contact Technical Support regarding the use of these devices for applications 20...900 FLA, 80...5600 LRA.

① 1- & 2-pole devices rated per pole
 ② DP20...DP30 intended for single phase resistive applications only above 277V
 ③ 220...240V only
 ④ Max. 277V
 ⑤ Breaking all lines
 ⑥ Suitable at 208V

Accessories



Auxiliary contact blocks

Description	DP20 to DP40, 3 pole and 4 pole configurations	DP50 to DP60	DP75 to DP90*
Form C SPDT	CADP40-10	CADP40-10	-
Double Form C SPDT	CADP40-20	CADP40-20	-
Form Z SPDT (1NO & 1NC)**	CADP40-11	CADP40-11	CADP90-11

** Must be the same polarity on both poles. For a complete description on contact types, please refer to page 1.78.

Mechanical interlock

Application	Catalog number
DP30C3P-*	VMDP-1
DP40C3P-*	VMDP-1

Protective cover

Application	Catalog number
DP20C2P-*	DP-2-AC
DP25C2P-*	DP-2-AC
DP30C2P-*	DP-2-AC

Din-rail mounting bracket

Application	Catalog number
DP20C1P-*	DP/DIN1-2
DP25C1P-*	DP/DIN1-2
DP30C1P-*	DP/DIN1-2
DP20C2P-*	DP/DIN1-2
DP25C2P-*	DP/DIN1-2
DP30C2P-*	DP/DIN1-2

Note: Replace "*" with appropriate coil voltage as per previous page

Technical data

Contact rating of SPDT auxiliary contacts

Voltage	Current rating
125 VAC	10 A, 1/3 HP
120 VAC	4 A on lamp load
250 VAC	10 A, 1/3 HP
125 VDC	0.5 A
250 VDC	0.25 A

Contact rating of 1 N.O. & 1 N.C. auxiliary contacts

	120V	240V	480V	600V
Break (A)	3.0	1.5	0.75	0.6
Make (A)	30	15	7.5	6
Continuous (A)	10	10	10	10

DP20 to DP40, 1 & 2 poles

Coil technical data	DP20 to DP30, 1 pole				DP20 to DP40, 2 poles			
Nominal coil voltage	24	120	208/240	277	24	120	208/240	277
Maximum pickup volts	18	88	177	221	18	88	177	221
Drop out volts range	6 - 15	20 - 70	40 - 140	50 - 165	6 - 15	20 - 70	40 - 170	50 - 165
Nominal inrush VA 50 Hz	31	31	31	31	33	33	33	33
Nominal inrush VA 60 Hz	28	28	28	28	30	30	30	30
Nominal closed VA 50 Hz	6	6	6	6	8	8	8	8
Nominal closed VA 60 Hz	5	5	5	5	6.5	6.5	6.5	6.5
Nominal coil resistance Ohms	18	420	1800	2500	11	237	1000	1600

Other specifications

Specifications	DP20 to DP30, 1 and 2 poles	DP40, 2 poles
Line and load terminals	# 10 - 32 screw	Box lug
Wire size AWG (min - max)	16 - 8	14 - 4 Cu/Al
Tightening torque (recommended)	25 in. lbs.	40 in. lbs.
Coil terminals	Dual .250" QC	Dual .250" QC
Power Terminals	1 Pole: Quad .250" QC 2 Pole: Dual or Quad .250" QC	Quad Dual or quad
Covers	Optional	Standard
Insulation System	130° C class B	130° C class B

DP20 to DP60, 3 poles

Coil technical data	DP20 to DP40, 3 poles					DP50 to DP60, 3 poles				
Nominal coil voltage	24	120	208/240	277	480	24	120	208/240	277	480
Maximum pickup volts	18	88	177	220	384	18	88	177	220	374
Drop out volts range	6 - 15	20 - 70	40 - 140	50 - 140	150 - 270	6 - 15	20 - 70	40 - 140	50 - 185	150 - 286
Nominal inrush VA 50 Hz	65	65	65	65	65	62	62	62	62	62
Nominal inrush VA 60 Hz	60	60	60	60	60	59	59	59	59	59
Nominal closed VA 50 Hz	7.5	7.5	7.5	7.5	7.5	9	9	9	9	9
Nominal closed VA 60 Hz	6	6	6	6	6	7	7	6	7	7
Nominal coil resistance Ohms	7	180	720	900	1320	2.4	150	600	750	1452

Other specifications

Specifications	DP20 to DP30, 3 poles	DP40, 3 poles	DP50 to DP60, 3 poles
Line and load terminals	# 10 - 32 screw ①	Box lug ①	Box lug ①
Wire size AWG (min - max)	16 - 8 2	14 - 4 Cu/Al	14 - 2 Cu/Al
Tightening torque (recommended)	22 in. lbs.	40 in. lbs.	50 in. lbs.
Quick connects (power terminals)	Dual .250 QC	Dual .250 QC	Dual .250 QC
Coil terminals	Dual .250 QC ②	Dual .250 QC ②	# 6 - 32 screw & dual .250 QC ②
Covers	Standard	Standard	Standard
Insulation system	130° C class B	130° C class B	130° C class B

① See diagram on page 1.183 for approximate dimensions and description.

② Stranding must be split for # 8 wire.

Technical data

DP20 to DP40, 4 poles

Coil technical data		DP20 to DP40, 4 poles				
Nominal coil voltage		24	120	208/240	277	480
Maximum pickup volts		18	88	177	220	384
Drop out volts range		6 - 15	20 - 70	40 - 140	65 - 185	150 - 270
Nominal inrush VA	50 Hz	62	62	62	62	62
Nominal inrush VA	60 Hz	59	59	59	59	59
Nominal closed VA	50 Hz	9	9	9	9	9
Nominal closed VA	60 Hz	7	7	6	7	6
Nominal coil resistance	Ohms	6	148	600	750	2100

Other specifications

Specifications	DP20 to DP30, 4 poles	DP40, 4 poles
Line and load terminals	# 10 - 32 screw ①	Box lug ①
Wire size AWG (min - max)	16 - 8 2	14 - 4 Cu/Al
Tightening torque (recommended)	22 in. lbs.	40 in. lbs.
Quick connects (power terminals)	Dual .250 QC	Dual .250 QC
Coil terminals	Dual .250 QC ②	Dual .250 QC ②
Covers	Standard	Standard
Insulation system	130° C class B	130° C class B

DP75 to DP90, 3 poles

Coil technical data		DP75 to DP90, 3 poles				
Nominal coil voltage		24	120	208/240	277	480
Maximum pickup volts		18	88	177	220	384
Drop out volts range		6-15	20-70	40-10	65-185	150 - 270
Nominal inrush VA	50 Hz	285	285	285	285	62
Nominal inrush VA	60 Hz	240	240	240	240	59
Nominal closed VA	50 Hz	42	42	42	42	9
Nominal closed VA	60 Hz	27	27	27	27	6
Nominal coil resistance	Ohms	0.65	16	64	85	2100

Other specifications

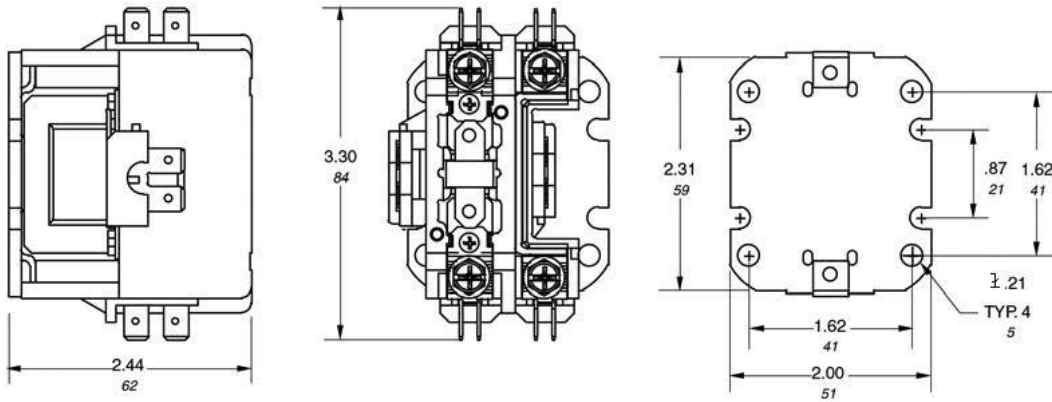
Specifications	DP75 to DP90, 3 poles
Line and load terminals	Box lug (1)
Wire size AWG (min-max)	14-1 Cu/Al
Tightening torque (recommended)	50 in. lbs
Quick connects (power terminals)	Dual .250" QC
Coil terminals	Dual .250" QC
Covers	Standard
Insulation system	130°C Class B

① See diagram on page 1.183 for approximate dimensions and description.

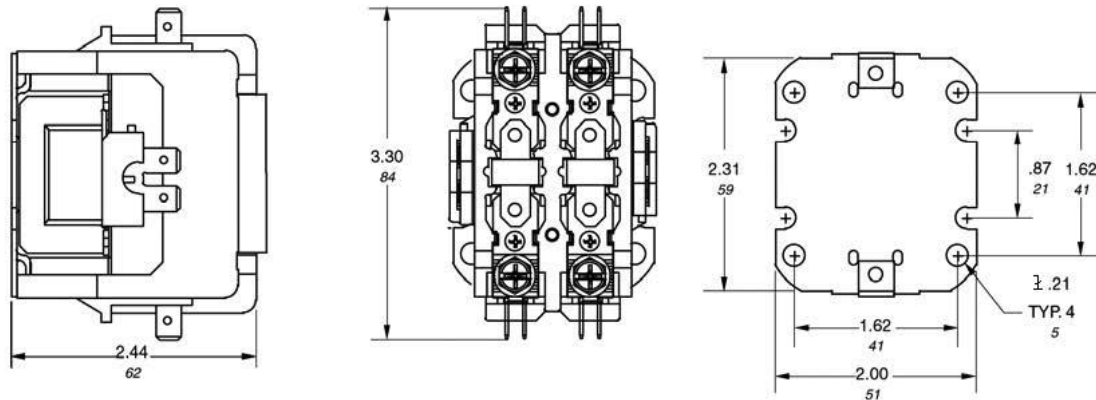
② Stranding must be split for # 8 wire.

Approximate dimensions

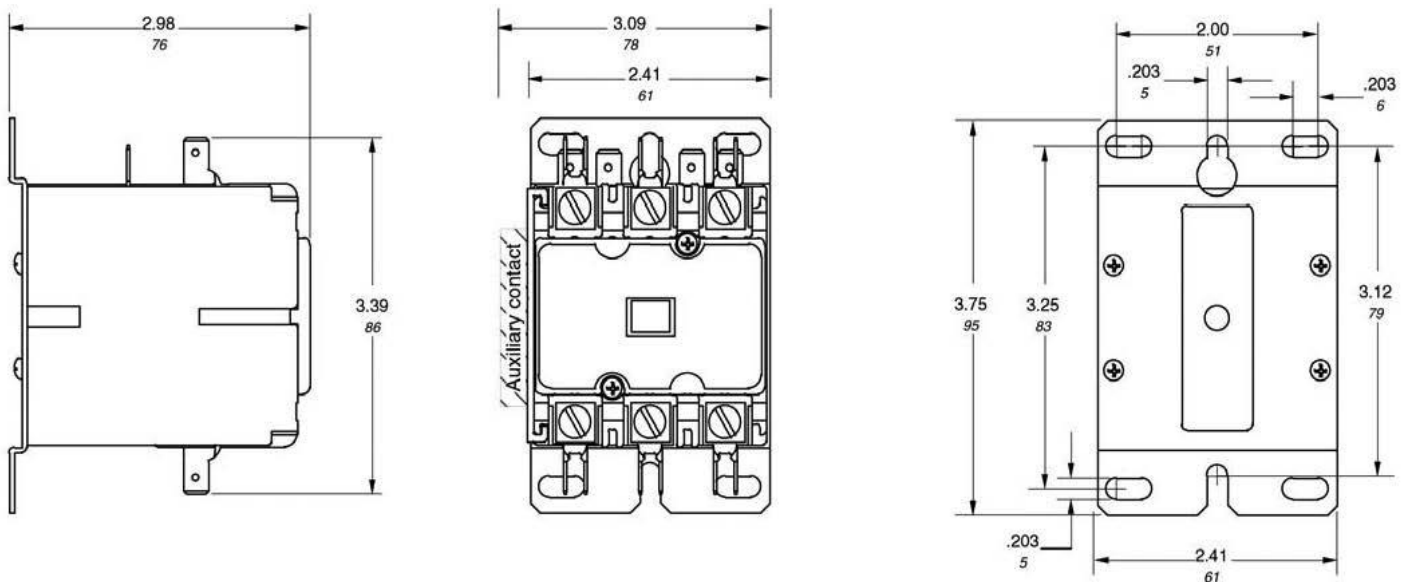
DP20 to DP30, 1 pole



DP20 to DP30, 2 poles

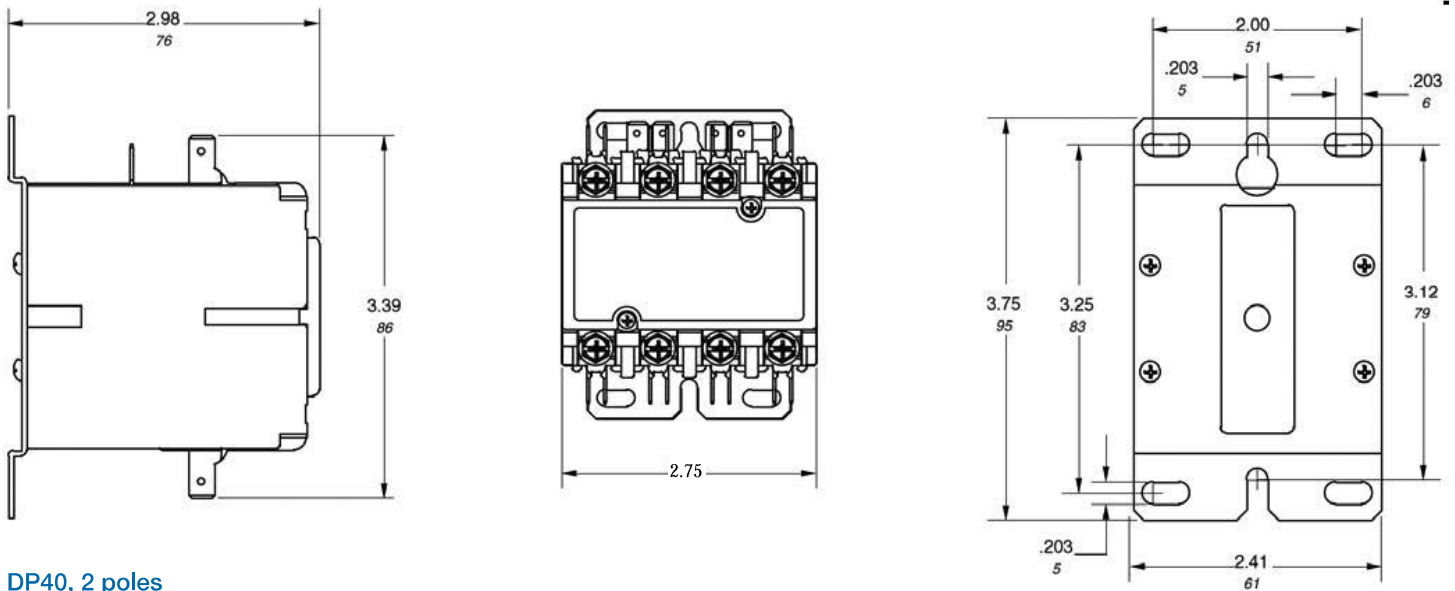


DP20 to DP30, 3 poles

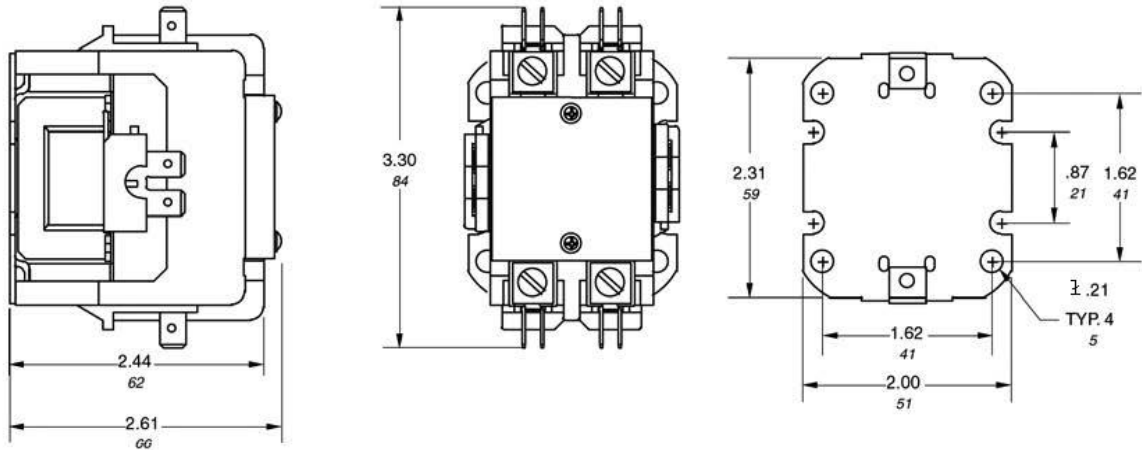


Approximate dimensions

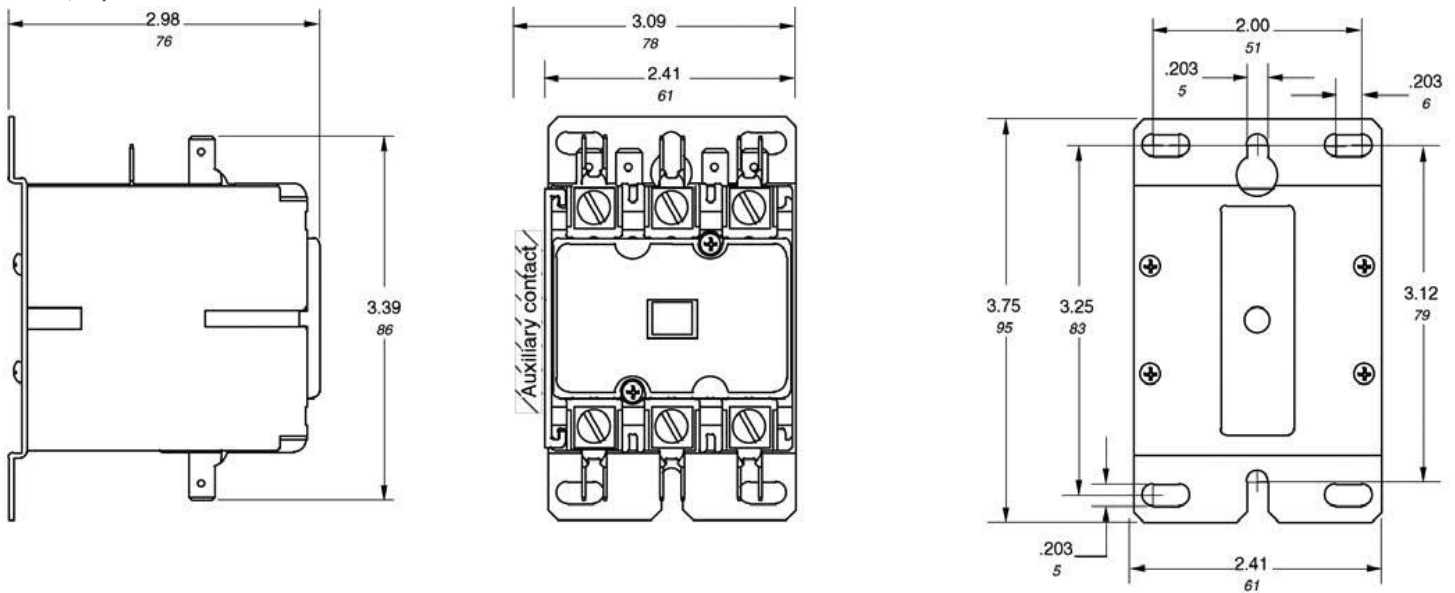
DP30, 4 poles



DP40, 2 poles

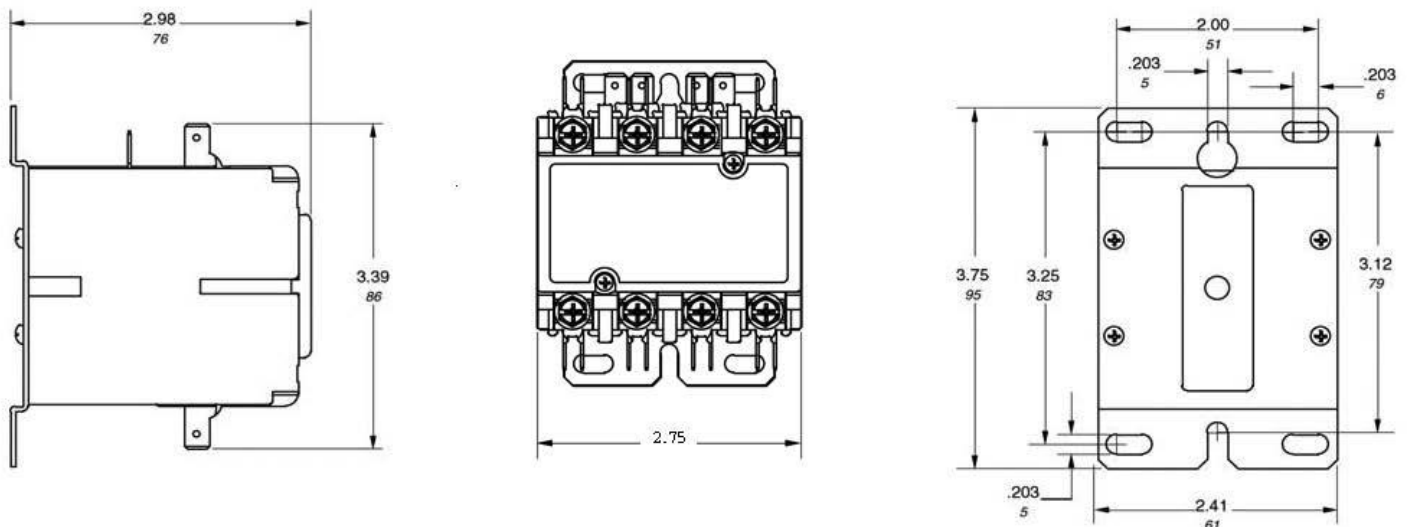


DP40, 3 poles

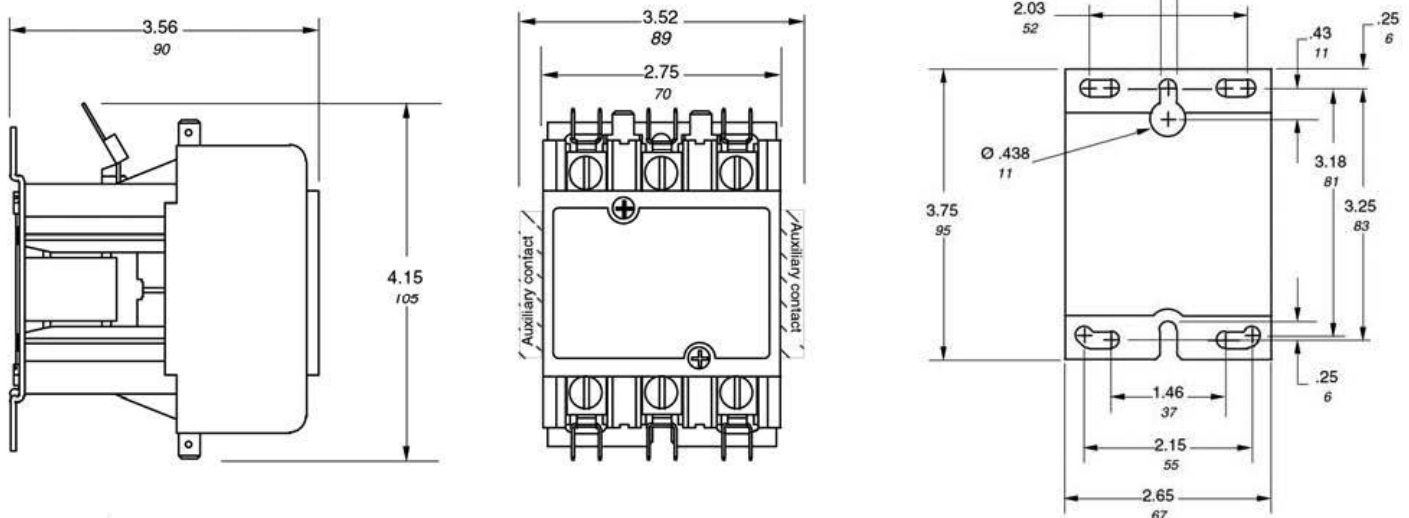


Approximate dimensions

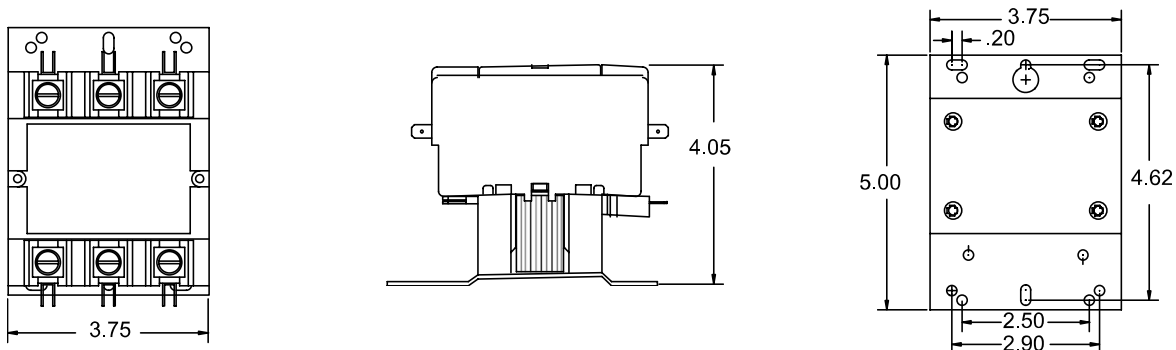
DP40, 4 poles



DP50 to DP60, 3 poles



DP75 to DP90, 3 poles



Approximate dimensions

Terminals

Standard on DP 20 to DP30

Standard on DP40

Standard on DP 60

Standard on DP 90

