

**BENSHAW®**  
ADVANCED CONTROLS & DRIVES

*A member of UNICO Technologies Group*



# Contactors and Contactor Accessories

# Contactors — UL / IEC / NEMA

*RC / RSC SERIES*

*690 VAC CONTACTORS*

## RATINGS

NEMA:	Size 00–7
IEC:	9–800 Amps
UL:	1–600 HP



## IEC / NEMA Contactor Highlights

Benshaw contactors are used for controlling single- and three-phase motors and for switching resistive or inductive loads up to 690 VAC.

The RediStart™ contactor line is built and tested to world-leading electrical and mechanical standards.



RoHS compliant  
KEPIC compliant

### Key Advantages:

- World's longest electrical and mechanical lifespan
- UL/CSA, IEC, NEMA, BS, EN, VDE ratings
- Direct mount thermal overload relays
- Full line of field installable, modularized accessories
- Device marking strip
- AC or DC coil options

### Standard Features:

- DIN rail mountable to 150 amps
- Full product family to 800 amps
- Direct mount overload relays
- Draw out cassette coils 180 amps and above
- Integral coil surge suppression 180 amps and above
- Low coil power consumption
- Phase barriers supplied standard
- Uni-directional mounting
- Extremely long lifespan
- Compact size
- Unit identification marker

### RC-9 – 150A

- Finger-proof design
- DIN rail or screw mountable
- Top/side mount accessories
- Small physical size
- Dual auxiliary contacts above 22 A
- Integral voltage barriers

### RSC-180 – 800

- Draw-out cassette-type coil
- Wide voltage range coils
- Integral coil surge suppression
- Dual auxiliary contacts

\* Consult factory for certifications.

# Contactor Part Number Assembler

## RC / RSC SERIES

**RSC** - **220** - **U120**

### RediStart™ Contactor

RC 9A–150A

RSC 180–800

### Contactor Frame & Rating

Contactor	IEC AC3 480 Rating	NEMA Size
9A	9 A	00
12A	12 A	0
18A	18 A	0
22A	22 A	–
32A	32 A	1
40A	40 A	1P
50A	50 A	2
65A	60 A	–
75A	75 A	–
85A	85 A	3
100A	105 A	–
130A	130 A	–
150A	150 A	4
180	185 A	–
220	225 A	–
300	330 A	5
400	400 A	–
600	630 A	6
800	800 A	7

	Frames 9A–150A	Frames 180–400	Frames 600/800
Coil Voltage	Suffix Part # AC 50 & 60 Hz	Suffix Part # AC 50 & 60 Hz	Suffix Part #
24	56AC24	–	–
48	56AC48	–	–
110	56AC110	U120	U120
120	56AC120	U120	U120
208	56AC208	U120	U200
240	56AC240	U120	U200
380	56AC380	–	–
480	56AC500	U500	U500
575	56AC500	U500	U500

RC-9A– RC -150A coil voltages: 85%–110% of rated voltage.

For DC and other coils not listed, consult factory.

U120 coils are universal 100–240 VAC / 100–220 VDC (100–400 amp frames only).

U120 coils are 100–127 VAC only for 600 and 800 amp frames.

U200 coils are 200–240 VAC for 600 and 800 amp frames.

U500 coils are universal 440–600 VAC.

# Contactor Ratings

## RC / RSC SERIES

### UL / IEC Rated

Model Number	Amp Ratings					HP Ratings							Aux. Contact	
	AC1	AC3				UL	One-Phase		Three-Phase				NO	NC
	lth	200/240	380/440	500/550	690	lth	115	230	200	230	460	690		
🔌 RC-9A-*	25	11	9	7	6	25	0.5	1.5	2	3	5	7.5	1	1
🔌 RC-12A-*	25	13	12	12	9	25	0.75	2	3	5	7.5	10	1	1
🔌 RC-18A-*	32	18	18	13	9	32	1	3	5	7.5	10	15	1	1
🔌 RC-22A-*	40	22	22	20	18	40	2	3	7.5	10	15	20	1	1
🔌 RC-32A-*	50	32	32	28	20	50	2	5	7.5	10	20	25	2	2
🔌 RC-40A-*	60	40	40	32	23	60	3	7.5	15	15	30	30	2	2
🔌 RC-50A-*	70	55	50	43	28	70	3	10	20	25	40	50	2	2
🔌 RC-65A-*	100	65	65	60	35	100	5	15	25	30	50	60	2	2
🔌 RC-75A-*	110	75	75	64	42	110	5	15	25	30	50	60	2	2
🔌 RC-85A-*	135	85	85	75	45	135	7.5	15	30	40	60	75	2	2
🔌 RC-100A-*	160	105	105	85	65	160	10	20	30	40	75	75	2	2
🔌 RC-130A-*	160	130	130	90	60	160	10	20	40	40	75	75	2	2
🔌 RC-150A-*	210	150	150	100	60	210	15	25	40	50	100	75	2	2
🔌 RSC-180-*	230	180	180	180	120	230	15	30	60	60	125	125	2	2
🔌 RSC-220-*	275	250	250	200	150	275	15	40	60	75	150	150	2	2
🔌 RSC-300-*	350	300	300	250	220	350	-	-	100	100	200	200	2	2
🔌 RSC-400-*	450	400	400	350	300	450	-	-	125	150	300	300	2	2
🔌 RSC-600-*	660	630	630	500	420	660	-	-	150	200	400	400	2	2
🔌 RSC-800-*	900	800	800	720	630	900	-	-	250	300	600	600	2	2

### NEMA Rated

Model Number	NEMA Size	NEMA HP Rating Three-Phase				Aux. Contacts	
		200-208 V	220-240 V	440-480 V	550-600 V	NO	NC
🔌 RC-9A-*	00	1.5	1.5	2	2	1	1
🔌 RC-18A-*	0	3	3	5	5	1	1
🔌 RC-32A-*	1	7.5	7.5	10	10	2	2
🔌 RC-50A-*	2	10	15	25	25	2	2
🔌 RC-85A-*	3	25	30	50	50	2	2
🔌 RC-150A-*	4	40	50	100	75	2	2
🔌 RSC-300-*	5	75	100	200	200	2	2
🔌 RSC-600-*	6	150	200	400	400	2	2
🔌 RSC-800-*	7	250	300	600	600	2	2

\*Add coil suffix. See page 1-3 for Contactor part number assembler.

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# Contactor Technical Information

## RC / RSC SERIES

Specification	Contact Type	RC 9A	RC 12A	RC 18A	RC 22A	RC 32A	RC 40A	RC 50A	RC 65A	RC 75A	RC 85A	RC 100A	RC 130A	RC 150A	RSC 180	RSC 220	RSC 300	RSC 400	RSC 600	RSC 800
Lighting Duty AC 5	120–690 V	11A	13A	18A	22A	32A	40A	50A	65A	75A	85A	105A	120A	150A	180A	250A	300A	400A	630A	800A
Rated Life (million)	Electrical	2.5	2.5	2.5	2.5	2	2	2	2	2	2	1	1	1	1	1	1	0.5	0.5	0.5
	Mechanical	25	25	25	25	15	15	10	10	10	10	5	5	5	5	5	5	5	5	5
Withstand Voltage Rating		6000V																		
Ambient Temperature Range		-5 to 50°C Operation, -40 to 65°C Storage Without Derating																		
Operating Times (AC coil)	Closing (ms)	15–30						15–30				20–40		45–60		45–68		66–70		
	Opening (ms)	4–19						10–30				60–70		41–45		43–52		45–55		
Resistance to Shock		49 m/s2 (<5g)																		
Conductor Size (max.)*Note		#10AWG	#8			#6	#4	#3	#2	1/0	2/0	4/0	Limited Only by Crimp Size							
Switching Frequency (OP/HR) AC3		1800	1800	1800	1800	1800	1800	1800	1800	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Interrupt Curr. @ 460 VAC		5KA	5KA	5KA	5KA	5KA	5KA	5KA	5KA	10KA	10KA	10KA	10KA	10KA	10KA	10KA	18KA	18KA	30KA	30KA
Maximum Make Current (A) 480 V, AC3		90	120	180	220	320	400	500	650	750	950	1050	960	1200	1800	2500	3000	4000	6300	8000
Maximum Break Current (A) 480 V, AC3		72	96	144	176	256	320	400	520	600	650	840	1200	1500	1800	2500	3000	4000	6300	8000
Rated Insulation Voltage		690V				1000V														
Vibration Resistance		19.6 m/s2 (<2g)																		

\*Note: ≤ RC-40A have screws with clamp-type washer

# Contactor Coil Ratings

## RC / RSC SERIES

Type	Coil Consumption AC (VA)		Heat Dissipation (W)	Operational Voltage (% of rated coil voltage)		Operating Time	
	Inrush	Sealed		Min.	Max.	Closing (ms)	Opening (ms)
RC-9A~22A	80	11	2.3	85%	110%	15~30	4~19
RC-32A~40A	80	9	2.7	85%	110%	15~30	4~19
RC-50A~65A	120	11	2.8	85%	110%	15~30	4~19
RC-75A~100A	220	16	5.4	85%	110%	15~30	10~30
RC-130A~150A	110	24	2.7	85%	110%	20~40	60~70
Pick Up (V) U120 Drop Out (V) U120							
RSC-180~220	220	9.1	3.4	77%	48%	60	41
RSC-300~400	393	14	4.4	77%	48%	64~68	43~47
RSC-600~800	1000	17	6.3	77%	48%	66~70	45~49




Type	Coil Consumption DC (W)		Heat Dissipation (W)	Operational Voltage (% of rated coil voltage)		Operating Time	
	Inrush	Sealed		Min.	Max.	Closing (ms)	Opening (ms)
RC-9A~22A	3	5	—	85%	110%	40~60	4~19
RC-32A~40A	2.2	9	—	85%	110%	50~65	4~19
RC-50A~65A	2.2	9	—	85%	110%	50~65	4~19
RC-75A~100A	5.1	18	—	85%	110%	100~120	10~45
RC-130A~150A	213	7.5	—	85%	110%	70~80	60~70

# Contactor Accessories

## RC / RSC SERIES







### Optional Contactor Box Lug Kits








Model Number	Description	Contactor Range	Conductors Per Phase	Wire Size
 <b>RSC-AJ-220</b>	1 Kit = 3 Lugs for Line or Load	180–400	1	1 AWG–350 MCM
 <b>RSC-AJ-400</b>		180–220	2	3/0–500 MCM
 <b>RSC-AJ-800</b>		300–800	2	3/0–600 MCM

No box lug kits for RC-9A–150A.

### Auxiliary Contact Blocks


Model Number	Description	Contactor Range	Poles
 <b>RC-AU2-1A1B</b>	Top Mount	RC-9A–150A	2 (1 NO/1 NC)
 <b>RC-AU4-2A2B</b>	Top Mount	RC-9A–150A	4 (2 NO/2 NC)
 <b>RC-UA1</b>	Side Mount	RC-9A–150A	2 (1 NO/1 NC)
 <b>RC-AU100</b>	Side Mount	RSC-180–800	2 (1 NO/1 NC)

### Surge Suppressors

Model Number	Description	Coil Voltage	Contactor Range
 <b>RC-US1</b>	RC + Varistor	AC 24–48 V	RC-9A–150A
 <b>RC-US2</b>	RC + Varistor	AC 120 V	RC-9A–150A
 <b>RC-US3</b>	RC + Varistor	AC 200–240 V	RC-9A–150A
 <b>RC-US4</b>	RC + Varistor	DC 24–48 V	RC-9A–150A
 <b>RC-MO125</b>	Varistor	AC 100–125 V	All
 <b>RC-MO240</b>	Varistor	AC 200–240 V	All
 <b>RC-MO48</b>	Varistor	AC 24–48 V	All

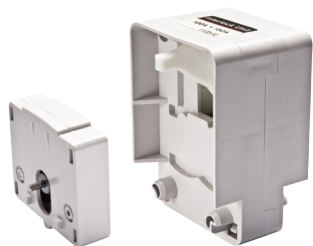
RSC-A100 and RC-AU100 are the same part.

RSC-180–800 contactors have built-in surge suppression.




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# Contactor Accessories

RC / RSC SERIES






## Mechanical Interlock Units

Model Number	Description	Contactor Range
 <b>RC-M150*</b>	Mechanical interlock for two contactors. Prevents both contactors from closing simultaneously.	RC-9A-150A
 <b>RSC-M400</b>		RSC-180-400
 <b>RSC-M800</b>		RSC-600-800

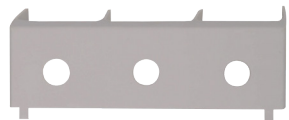
\*RC-M150A includes (2) NC contacts for electrical interlock.

## Terminal Cover Kits\*



Model Number	Contactor Range
 <b>RSC-AP220</b>	RSC-180-220
 <b>RSC-AP400</b>	RSC-300-400
 <b>RSC-AP600</b>	RSC-600-800

\*Terminal cover kits included with RC-9A-RC-150A.


Kits include line and load terminal covers.



## CAPACITOR UNIT

Model Number	Description	Configuration	Contactor Range
 <b>RSC-AC-9</b>	Capacitor Unit	—	RC-9A-RC-40A
 <b>RSC-AC-50</b>	Capacitor Unit	—	RC-50A-RC-100A

Use when connecting PFCCs, reduces inrush current.

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# Contactors

## Replacement Parts

RC / RSC SERIES






### Replacement Contact Kits

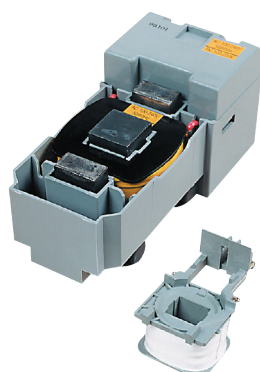
Model Number	Description	Contactors Range
 <a href="#">RSC-T180</a>	Each kit includes: 3 stationary and 3 movable contacts (Replaces all three phases of one contactor)	RSC-180
 <a href="#">RSC-T220</a>		RSC-220
 <a href="#">RSC-T300</a>		RSC-300
 <a href="#">RSC-T400</a>		RSC-400
 <a href="#">RSC-T600</a>		RSC-600
 <a href="#">RSC-T800</a>		RSC-800

No contact kits are available for RC-9A-150A.











### Replacement Phase Barrier Kits

Model Number	Description	Contactors Range
 <a href="#">RSC-B220</a>	Each kit includes: 2 phase barriers for line or load side of one contactor	RSC-180-220
 <a href="#">RSC-B400</a>		RSC-300-400
 <a href="#">RSC-B800</a>		RSC-600-800



### Contactors Coils

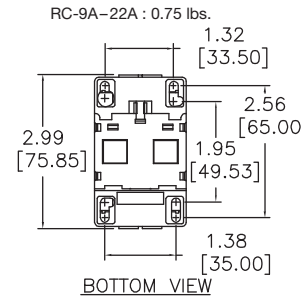
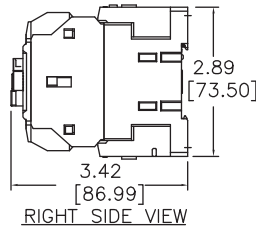
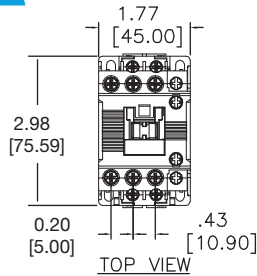
Model Number	Coil Voltage	Contactors Range
 <a href="#">RSC-C220U120</a>	100 V-240 V	RSC-180-220
 <a href="#">RSC-C220U500</a>	440 V-575 V	RSC-180-220
 <a href="#">RSC-C400U120</a>	100 V-240 V	RSC-300-400
 <a href="#">RSC-C400U400</a>	380 V-450 V	RSC-300-400
 <a href="#">RSC-C400U500</a>	440 V-575 V	RSC-300-400
 <a href="#">RSC-C800U120</a>	100 V-127 V	RSC-600-800
 <a href="#">RSC-C800U200</a>	200 V-240 V	RSC-600-800
 <a href="#">RSC-C800U500</a>	440 V-575 V	RSC-600-800

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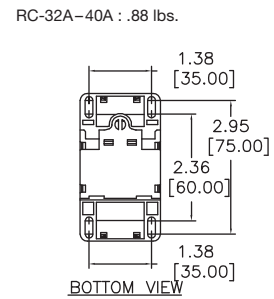
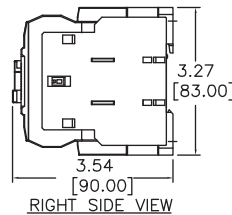
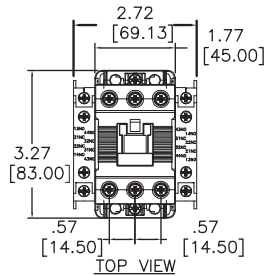
# Contactor Mounting Dimensions

## RC-9A — RC-65A CONTACTORS

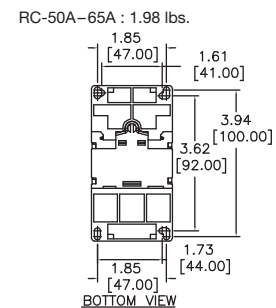
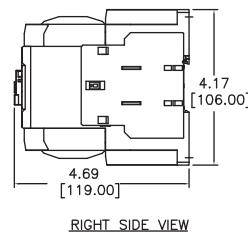
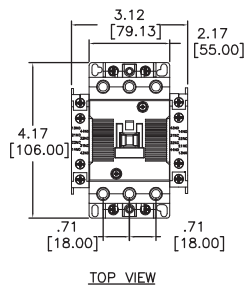
### RC-9A, RC-12A, RC-18A, RC-22A



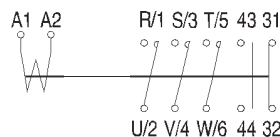
### RC-32A, RC-40A



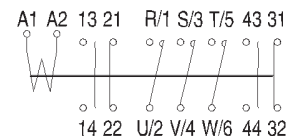
### RC-50, RC-65A



### Circuit Diagram



RC-9 A-22A —  
With one aux.contact block



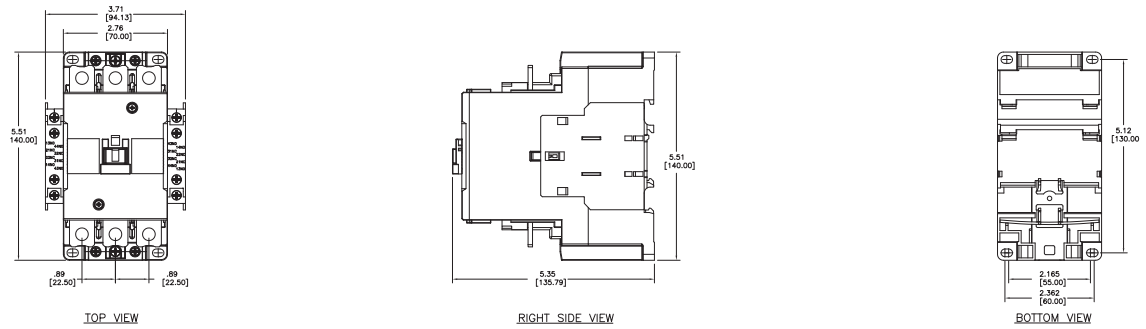
RC-32A-150A —  
With two aux.contact blocks

# Contactor Mounting Dimensions

*RC-75A — 150A CONTACTORS  
AND RSC-180 — 220 CONTACTORS*

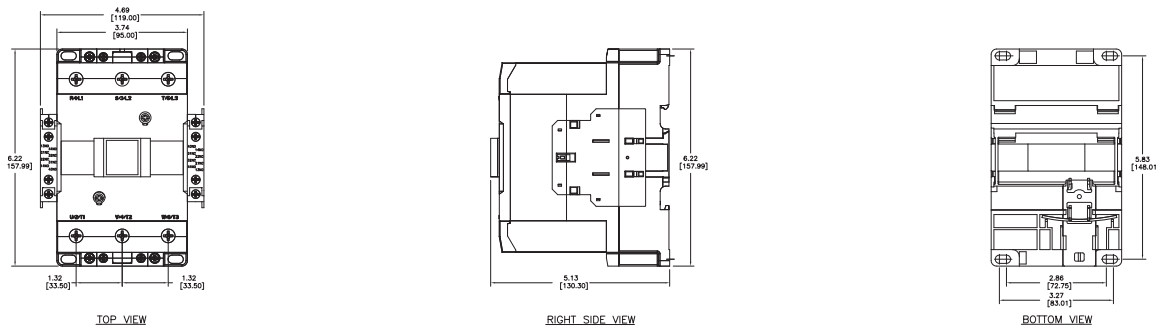
## RC-75A, RC-85A, RC-100A

RC-75A–100A : 3.52 lbs.



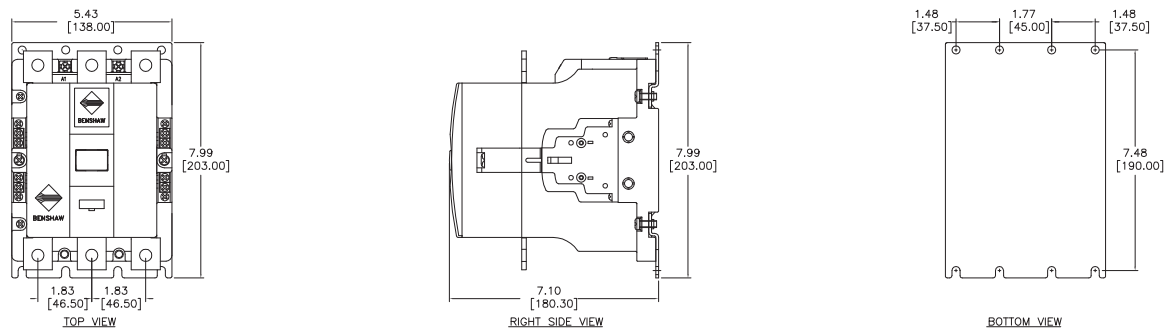
## RC-130A, RC-150A

RC-130A – 150A : 5.3 lbs.

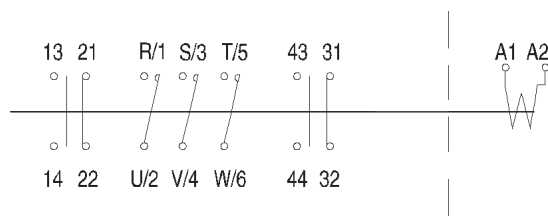


## RSC-180, RSC-220

RSC-180–220 : 11.9 lbs.



## Circuit Diagram

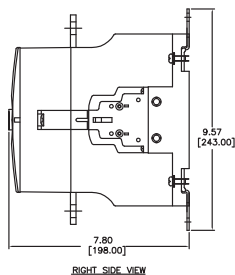
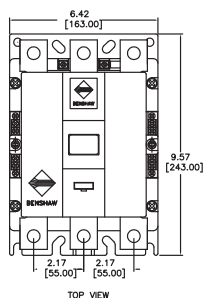


RSC-180 – 220 — With two Aux.contact blocks

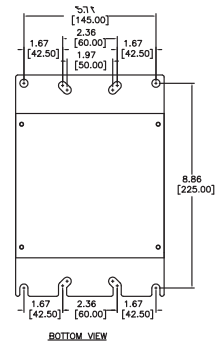
# Contactor Mounting Dimensions

## RSC-300 — 800 CONTACTORS

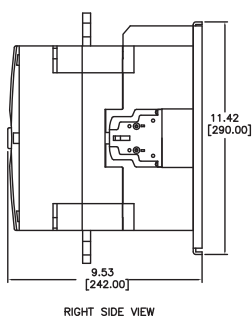
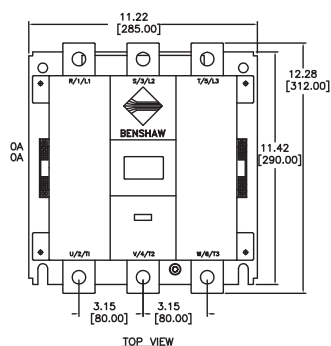
### RSC-300, RSC-400



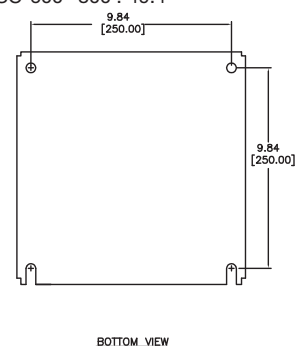
RSC-300-400 : 20.3 lbs.



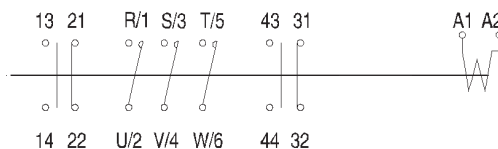
### RSC-600, RSC-800



RSC-600-800 : 49.4



### Circuit Diagram



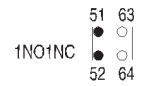
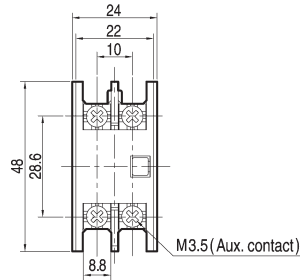
RSC-300 – 800

# Contactor Mounting Dimensions

## AUXILIARY CONTACTS

### RC-AU2-1A1B

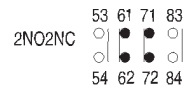
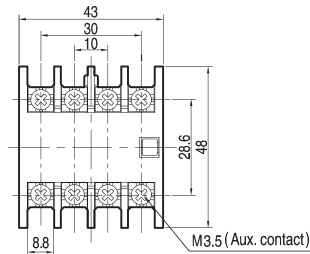
Weight: 28 g



Wiring Diagram

### RC-AU4-2A2B

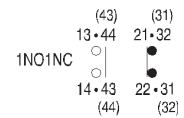
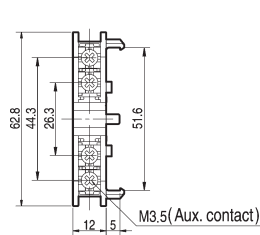
Weight: 50 g



Wiring Diagram

### RC-UA1

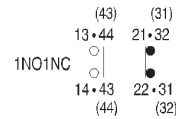
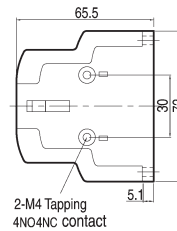
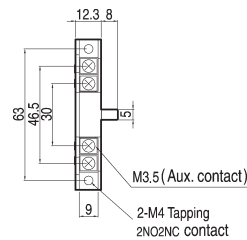
Weight: 33 g



Wiring Diagram

### RC-AU100

Weight: 45 g



Wiring Diagram

## Advanced Controls and Drives

Full Voltage Controls

Variable Frequency Drives

Low Voltage Solid State Starters

Medium Voltage Drives

Medium Voltage Controls

Medium Voltage Switchgear

## UNICO Technologies Group

### Power and Precision in Motion

Taking care of our customers' power needs has been our single focus for 88 years. Our two leading brands bring innovative control and electrical solutions to solve your challenges. Through thousands of systems in a broad array of applications, we've learned what it takes to make your system live up to its potential.

**At a glance:** With facilities in 12 countries, we combine the convenience of local service with the economies-of-scale and efficiency of a large global organization.

#### Innovative solutions via technology:

We bring you mission-critical motor control and protection products, designed and built with expertise and precision to maximize your output and minimize downtime.

**Engaged and knowledgeable:** We like to think of ourselves as "Application Smart," which always includes critical dependencies such as standards, compliance and regulatory issues.



Visit us online at [unicotg.com](http://unicotg.com), or contact:

#### UNICO Technologies Group

3725 Nicholson Road  
PO Box 0505  
Franksville, WI 53126-0505

#### After Hours Tech Support

Phone: 800.203.2416



## 24/7 Technical Support

- 24/7 hotline support from Pittsburgh (USA) and Listowel (Canada)
- Overnight parts shipment
- Coordination of all service capabilities — repair, spare parts, field engineering, retrofit and training

## Repairs

- Trained, experienced, field personnel
- Equipped with the latest diagnostic and test equipment
- Start-up commissioning, field repairs, field analysis/data collection and preventative maintenance

## Benshaw Product Line

- Solid state starters fractional to 30,000 HP at 15 kV
- LV AC drives to 700 HP
- MV AC drives to 12,000 HP
- Electromechanical controls to 800 A

## Benshaw Express

- 24/7 online inventory and order system for authorized Benshaw distributors
- 24/7 shipment
- Air or truck delivery

Visit us online at [benshaw.com](http://benshaw.com) and [benshawexpress.com](http://benshawexpress.com), or contact:

#### BENSRAW, Inc.

615 Alpha Drive  
Pittsburgh, PA 15238

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Fax: 412.968.5415

#### BENSRAW Canada

550 Bright Street East  
Listowel, Ontario N4W 3W3

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Specifications are subject to change without notice.

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