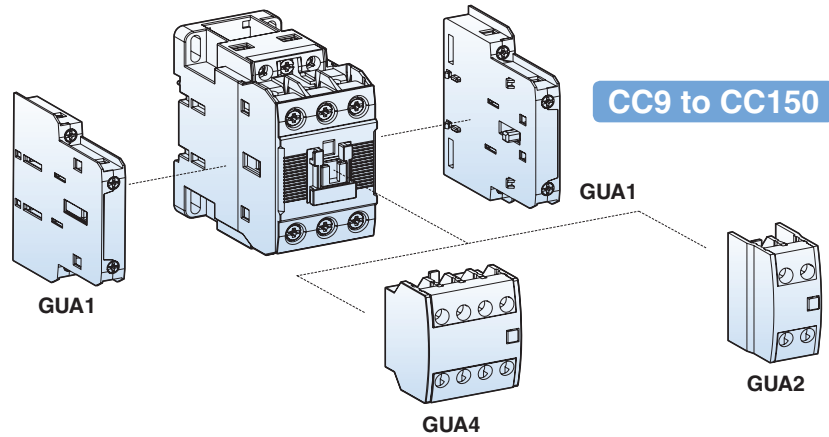


Auxiliary Contact Units

- 2 and 4 pole
- Side or front mountable
- Common use for Metasol contactors from CC9 to CC150



Selection

Type	Appearance	Pole	Composition		Contact arrangement	Mount	Weight
			NO	NC			
GUA1		2	1	1	<p>13(43) 21(31) 14(44) 22(32)</p>	Side	53g
GUA2		2	2 1 -	- 1 2	<p>53 63 51 63 51 61 54 64 52 64 52 62</p>	Front	28g
GUA4		4	4 3 2 1 -	- 1 2 3 4	<p>53 63 73 83 53 61 73 83 53 61 71 83 54 64 74 84 54 62 74 84 54 62 72 84</p>	Front	50g

Maximum Combination of Contact Units

For contactors with AC coils	For contactors with DC coils
GUA4 (on front) + GUA1 × 4EA (2EA on both sides)	GUA4 (on front) + GUA1 × 2EA (1EA on both sides)
GUA2 (on front) + GUA1 × 4EA (2EA on both sides)	GUA2 (on front) + GUA1 × 2EA (1EA on both sides)

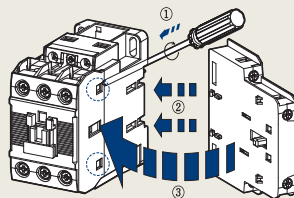
Auxiliary contact units

Rating

Type		GUA1	GUA2, 4	AUX100-11
Rated operation voltage (Ue)		600V	600V	600V
Rated insulation voltage (Ui)		600V	600V	600V
Rated impulse withstand voltage (Uimp)		6kV	6kV	6kV
Rated frequency		50/60Hz	50/60Hz	50/60Hz
Contact sensibility				
Voltage		DC 17V	DC 24V	DC 24V
Current		DC 5mA	DC 10mA	DC 10mA
Rated thermal current (Ith, AC12 duty)		10A	16A	16A
Rated operation current				
AC15 duty	120V	6A	6A	6A
(A600)	240V	3A	3A	3A
	380V	1.9A	1.9A	1.9A
	480V	1.5A	1.5A	1.5A
	500V	1.4A	1.4A	1.4A
	600V	1.2A	1.2A	1.2A
DC13 duty	125V	1.1A	1.1A	1.1A
(P600)	250V	0.55A	0.55A	0.55A
	400V	0.31A	0.31A	0.31A
	500V	0.27A	0.27A	0.27A
	600V	0.2A	0.2A	0.2A
Electrical lifetime (mil. operations)				
AC15 duty	220V	0.5	0.5	0.5
	440V	0.5	0.5	0.5
DC13 duty	220V	0.5	0.5	0.5
	440V	0.5	0.5	0.5
Maximum operating cycles per hour		1800	1800	1800
Conductor size (Solid, stranded)	AWG	18~10	18~10	18~10
(the max. number of conducts: 2)	mm ²	1~2.5	1~2.5	1~2.5

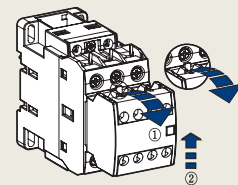
Installation

GUA1



To install side mounting unit remove the indicated part in the circle in the fig. first. And then fit each part as shown. To separate push forward and pull.

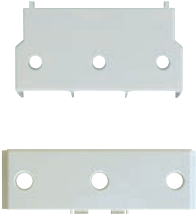
GUA2, 4



To install front mounting unit fit it on the upper part of the front of the contactor and push it down. To separate pull the lever of the unit and push the unit upward.

Contactor Accessories

Terminal Cover Units for Contactors



Applying contactors	Type	Remarks
MC-185a, 225a (225AF)	AP220	2 pcs included
MC-265a, 330a, 400a (400AF)	AP400	
MC-500a, 630a, 800a (800AF)	AP800	

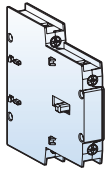
Insulation Barrier Units



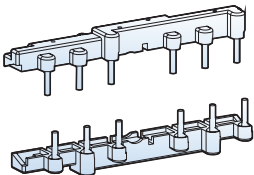
Applying contactors	Type	Remarks
MC-185a, 225a (225AF)	AI-400	4 pcs required per contactor
MC-265a, 330a, 400a (400AF)		
MC-500a, 630a, 800a (800AF)	AI-800	

Interlocks

Component parts for assembling by customer



Interlock unit



Wire kit

Interlock Unit, GUR02

GUR02 is a mechanical interlock unit and provides 2NC contacts for use in electrical interlocking

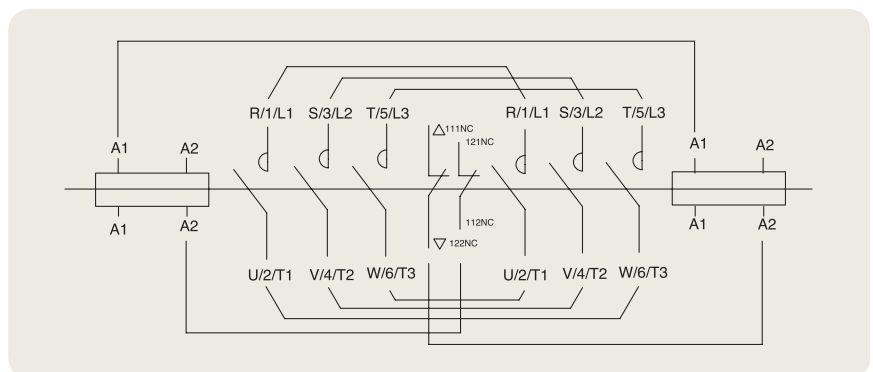
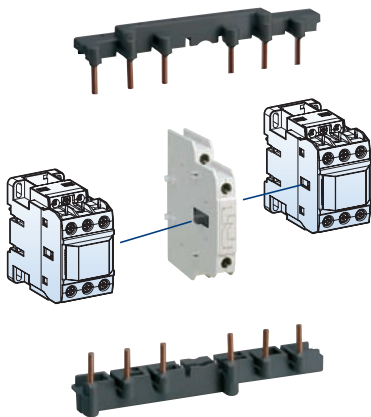
Wire Kit, UW

UW is used for making reversing circuit between two contactors.

Contactor	Wire kit		Interlock unit	
	Type	Weight	Type	Weight
CC9 ~ CC22	GUW22	0.04kg	GUR02	0.06kg
CC32 ~ CC40	GUW32	0.05kg		
CC50 ~ CC65	GUW63	0.12kg		
CC75 ~ CC100	GUW95	0.33kg		

Rating of the Contacts in the Interlocks

Rated operation voltage	600V	
Rated insulation voltage	600V	
Rated frequency	50/60Hz	
Rated thermal current	10A	
Rated operation current		
AC15 duty	120V	6A
(A600)	240V	3A
	380V	1.9A
	480V	1.5A
	500V	1.4A
	600V	1.2A
DC13 duty	125V	0.55A
	250V	0.27A



Typical circuit diagram for reversing contactor

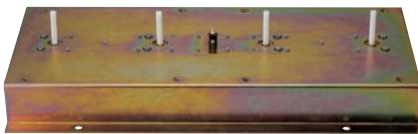
Contactor Accessories



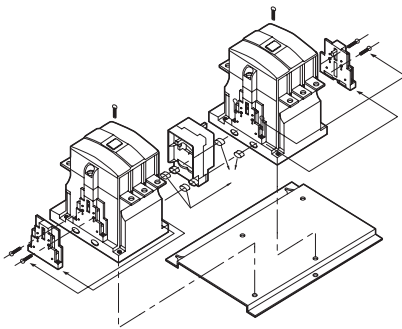
AR-180

Interlock Unit, AR-180 and AR-800

AR-180 and AR-800 are mechanical interlock units in which electrical contacts for use in electrical interlocking are not included. Please use the auxiliary contacts on the sides of the contactors for that purpose.

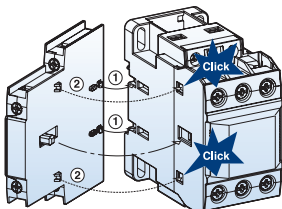


AR-600

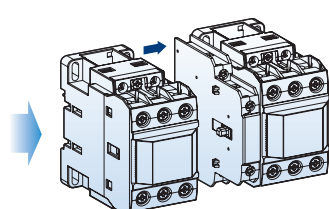


Contactor	Interlock unit	
	Type	Weight
CC180 CC225 CC265 CC330 CC400	AR-400	0.09kg
CC500 CC630 CC800	AR-800	15.2kg

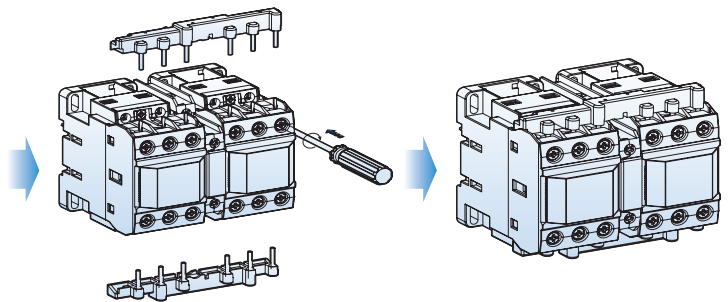
Installation of Interlock and Wire Kits



Install the interlock unit on the side of a contactor first. Fit each part as indicated in the fig.



And then install the other contactor on the other side of the interlock unit as shown.



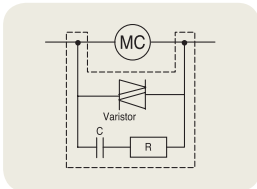
After installing interlock unit wiring kit can be assembled. Wiring kit contains two molded wires - one for line side and the other for load side.

Contactors Accessories

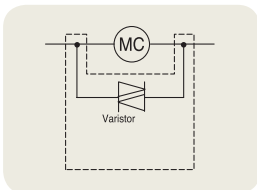
Surge Unit

It absorbs the surge arisen out of the coil of the contactor.
It can be installed simply to the contactor.

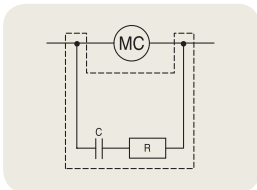
- Rated operation voltage (Ue): AC 24 ~ 440V
DC 24 ~ 125V
- Rated insulation voltage (Ui): 1000V
- Rated impulse withstand voltage (Uimp): 8kV
- Degree of protection: IP20



US-1~6



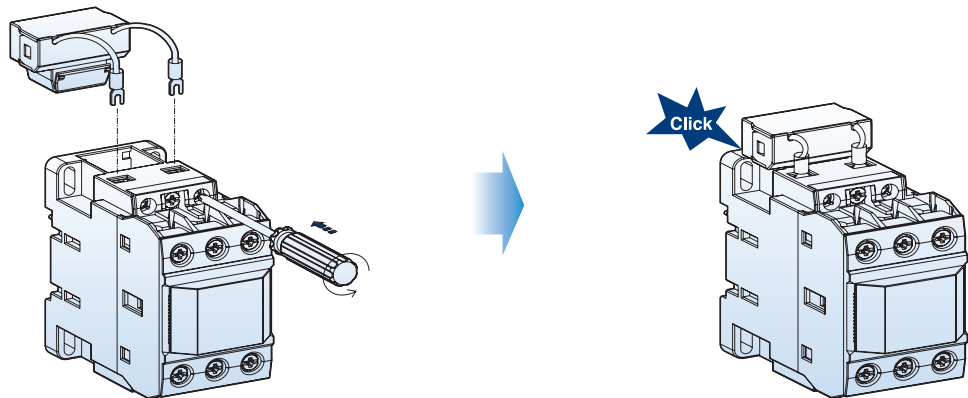
US-11~14



US-22

Surge unit		Rated voltage		Internal elements spec.			Weight
Type	Composition			V	R	C	
GUS1	Varistor+RC	AC	24~48V	120V	100 Ω	0.1 μF	29g
GUS2	Varistor+RC		100~125V	270V	100 Ω	0.1 μF	
GUS3	Varistor+RC		200~240V	470V	100 Ω	0.1 μF	
GUS4	Varistor+RC	DC	24~48V	120V	100 Ω	0.47 μF	
GUS5	Varistor+RC		100~125V	270V	100 Ω	0.47 μF	
GUS6	Varistor+RC		200~220V	470V	100 Ω	0.47 μF	
GUS11	Varistor	AC/DC common	24~48V	120V	-	-	
GUS12	Varistor		100~125V	270V	-	-	
GUS13	Varistor		200~240V	470V	-	-	
GUS14	Varistor		380~440V	1000V	-	-	
GUS22	RC	AC	100~125V	-	56 Ω	1 μF	

Installation



Connect the lead wires to the coil terminals of the contactor first.
And then insert the body into the space of the contactor as shown above.

Capacitor Unit

Capacitor unit is connected to the terminals of the contactor to reduce the high inrush current.



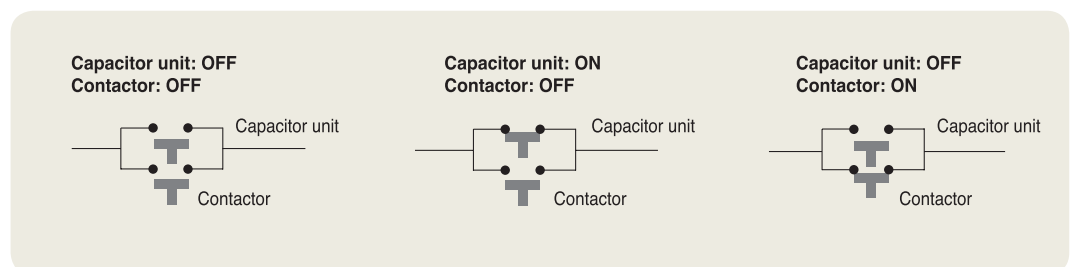
Type	Contactor	Maximum operating power (kvar)			Rated current (A)
		220 ~ 240V	400 ~ 440V	500 ~ 550V	
AC9	CC9	5	9,7	14	14
	CC12	6,7	12,5	18	18
	CC18	8,5	16,7	24	24
	CC22	10	18	26	26
	CC32	15	25	36	36
	CC40	20	33,3	48	48
AC50	CC50	20	40	58	58
	CC65	25	45,7	66	66
	CC75	29,7	54	78	78
	CC85	35	60	92	92
	CC100	37	62	94	94

Note) - When the switch is closed condenser must be discharged before recharged. (Maximum residual voltage at terminals $\leq 50V$)
 prevent short current, gG type fuse must be 1.5-2 times than rated current

Features of Capacitor Unit (Pre-loading Resistor)

- Damping resistor that can limit the inrush current upto $60 \times I_n$ is connected to the mechanism that closed earlier than the main contact of the contactor
- No heat loss by the serial resistor
- Eliminate the switching surge
- Improving the performance of the capacitor system

Operation Sequence



Note) Closing sequence: Fig.1 \Rightarrow Fig.2 \Rightarrow Fig.3
 Opening sequence: Fig.3 \Rightarrow Fig.1

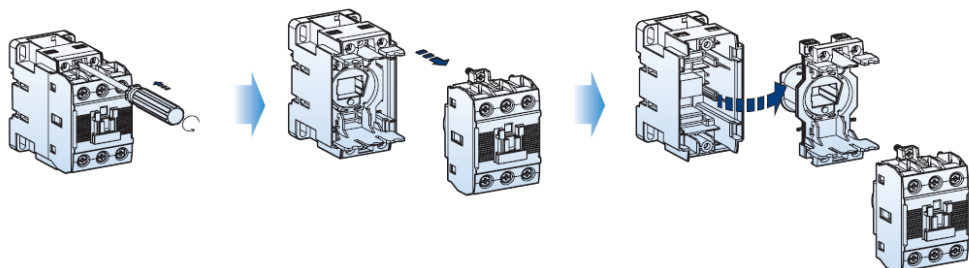
Replacement Coil Part Numbers

Refer to contactor data sheets for full coil specifications

Contactors (3-pole only):	Coil Part Number	Nominal Coil Voltage	Coil Part Number	Nominal Coil Voltage
CC9, CC12, CC18, CC22	no replacement coils offered			
CC32SA CC40SA	GCA32A24VAC50/60HZ	24 VAC 50/60Hz	GCA32A230VAC50/60HZ	230 VAC 50/60Hz
	GCA32A48VAC60HZ	48 VAC 60Hz	GCA32A240VAC50/60HZ	240 VAC 50/60Hz
	GCA32A110VAC50/60HZ	110 VAC 50/60Hz	GCA32A277VAC60HZ	277 VAC 60Hz
	GCA32A120VAC50/60HZ	120 VAC 50/60Hz	GCA32A440VAC60HZ	440 VAC 60Hz
	GCA32A208VAC60HZ	208VAC 60Hz	GCA32A480VAC60HZ	480 VAC 60Hz
	GCA32A220VAC50/60HZ	220 VAC 50/60Hz	GCA32A600VAC60HZ	600 VAC 60Hz
CC32SD CC40SD	GCA32A12VDC	12 VDC	GCA32A48VDC	48VDC
	GCA32A24VDC	24VDC	GCA32A110VDC	110VDC
CC50LA, CC50SA CC65LA, CC65SA	GCA63A24VAC50/60HZ	24 VAC 50/60Hz	GCA63A230VAC50/60HZ	230 VAC 50/60Hz
	GCA63A48VAC60HZ	48 VAC 60Hz	GCA63A240VAC50/60HZ	240 VAC 50/60Hz
	GCA63A110VAC50/60HZ	110 VAC 50/60Hz	GCA63A277VAC60HZ	277 VAC 60Hz
	GCA63A120VAC50/60HZ	120 VAC 50/60Hz	GCA63A440VAC60HZ	440 VAC 60Hz
	GCA63A208VAC60HZ	208VAC 60Hz	GCA63A480VAC60HZ	480 VAC 60Hz
	GCA63A220VAC50/60HZ	220 VAC 50/60Hz	GCA63A600VAC60HZ	600 VAC 60Hz
CC50LD, CC50SD CC65LD, CC65SD	GCA63A12VDC	12 VDC	GCA63A48VDC	48VDC
	GCA63A24VDC	24VDC	GCA63A110VDC	110VDC
CC75LA, CC75SA CC85LA, CC85SA CC100LA, CC100SA	GCA95A24VAC50/60HZ	24 VAC 50/60Hz	GCA95A230VAC50/60HZ	230 VAC 50/60Hz
	GCA95A48VAC60HZ	48 VAC 60Hz	GCA95A240VAC50/60HZ	240 VAC 50/60Hz
	GCA95A110VAC50/60HZ	110 VAC 50/60Hz	GCA95A277VAC60HZ	277 VAC 60Hz
	GCA95A120VAC50/60HZ	120 VAC 50/60Hz	GCA95A440VAC60HZ	440 VAC 60Hz
	GCA95A208VAC60HZ	208VAC 60Hz	GCA95A480VAC60HZ	480 VAC 60Hz
	GCA95A220VAC50/60HZ	220 VAC 50/60Hz	GCA95A600VAC60HZ	600 VAC 60Hz
CC75LA, CC75SA CC85LA, CC85SA CC100LA, CC100SA	GCA95A12VDC	12 VDC	GCA95A48VDC	48 VDC
	GCA95A24VDC	24 VDC	GCA95A110VDC	110 VDC
CC130LA, CC130SA CC150LA, CC150SA	GCA150A24VAC50/60HZ	24 VAC 50/60Hz	GCA150A220VAC50/60HZ	220 VAC 50/60Hz
CC130LD, CC130SD CC150LD, CC150SD	GCA150A48VAC50/60HZ	48 VAC 50/60Hz	GCA150A500VAC50/60HZ	500 VAC 50/60Hz
CC185 CC225	GCA225A24VACDC	24 VAC and VDC	GCA225A500VAC50/60HZ	500 VAC 50/60Hz
	GCA225A100/200VACDC	100/200 VAC and VDC		
CC265 CC330 CC400	GCA400A100/200VACDC	100/200 VAC and VDC	GCA400A500VAC50/60HZ	500 VAC 50/60Hz
	GCA400A400VAC50/60HZ	400 VAC 50/60Hz		
CC500 CC630 CC800	GCA800A100VACDC	100 VAC and VDC	GCA800A500VAC50/60HZ	500 VAC 50/60Hz
	GCA800A200VACDC	200 VAC and VDC		



Replacement Process



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