

104(S)-E09...E38, 305-TO...BO

104-IN007A-EN-E March 2020

Operating instructions
 Instruções de operação
 Notice d'utilisation
 Istruzioni d'uso
 Betriebsanleitung
 Instrucciones de operación
 Инструкции по эксплуатации
 操作说明
 사용자 매뉴얼

Reversing Contactor
 Contator de reversão
 Contacteur inverseur
 Teleinvertitore
 Wendeschütz-Kombination
 Inversor
 Реверсивный контактор
 可逆接触器
 가역형 전자접촉기

IEC/EN 60947-4-1
 UL 60947-4-1
 CAN/CSA-C22.2 No. 60947-4-1
 GB/T 14048.4



At the end of its life, this equipment should be collected separately from any unsorted municipal waste.



Attention!



Risk of electrical shock. Disconnect power before servicing, commissioning, decommissioning, and dismantling. Installation and commissioning of this product must be carried out by a qualified electrician, following installation standards and safety regulations. Before installing the contactor, make sure that the control voltage supply corresponds with the marked control voltage. High voltage testing shall not be carried out across the control terminals (A1 and A2). Applying the wrong control voltage or high voltage across the terminals can damage the contactor's electronic control circuits. Do not touch live parts.

Atenção!

Risco de choque elétrico. Desconecte a alimentação antes de fazer manutenção, comissionamento, desativação e desmontagem. A instalação e comissionamento deste produto devem ser efetuados por um electricista qualificado, de acordo com as normas de instalação e de segurança. Antes de instalar o contactor, certifique-se de que a alimentação de tensão de controle corresponda à tensão de controle marcada. Os testes de alta tensão não devem ser realizados através dos terminais de controle (A1 e A2). Aplicar a tensão de controle ou alta tensão erradas, através dos terminais, pode danificar os circuitos de controle eletrônico do contactor. Não toque nas peças sob tensão.

Attention!

Risque de choc électrique. Débrancher l'alimentation électrique avant toute intervention, mise en service ou mise hors service et démontèlement. L'installation et la mise en service de ce produit doivent être réalisées par un électricien qualifié, en respectant les normes d'installation et les réglementations, relatives à la sécurité. Avant l'installation du contacteur, vérifier que la tension de commande fournie correspond à la tension de commande indiquée. Des tests de tension élevée ne doivent pas être réalisés sur les bornes de commande (A1 et A2). L'application d'une tension erronée ou d'une tension élevée sur les bornes peut endommager les circuits électroniques du contacteur. Ne pas toucher les pièces sous tension.

Attenzione!

Rischio di scossa elettrica. Interrompere l'alimentazione prima di ogni operazione di manutenzione, messa in servizio, dismissione e smontaggio. Le operazioni di installazione e messa in servizio di questo prodotto devono essere effettuate da un elettricista qualificato, nel rispetto degli standard di installazione e delle norme di sicurezza. Prima dell'installazione del contactore, verificare che la tensione di controllo fornita dall'alimentazione corrisponda a quella indicata. Non eseguire i test ad alta tensione su morsetti di controllo (A1 e A2). L'applicazione di alta tensione o di una tensione di controllo non corretta ai morsetti può danneggiare i circuiti elettronici di controllo del contactore. Non toccare le parti in tensione.

Achtung!

Stromschlaggefahr. Unterbrechen Sie vor Wartungsarbeiten, Inbetriebnahme, Außerbetriebnahme und Demontage die Stromversorgung. Die Installation und Inbetriebnahme dieses Produkts darf nur durch einen Elektrofachmann gemäß den Installationsstandards und Sicherheitsvorschriften durchgeführt werden. Stellen Sie vor der Installation des Schützes sicher, dass die Steuerspannungsversorgung der angegebenen Steuerspannung entspricht. An den Steuerklemmen (A1 und A2) dürfen keine Hochspannungstests durchgeführt werden. Beim Anlegen der falschen Steuerspannung oder beim Anlegen von Hochspannung an den Klemmen können die elektronischen Steuerstromkreise des Schützes beschädigt werden. Berühren Sie niemals stromführende Teile.

¡Atención!

Riesgo de descarga eléctrica. Desconecte la alimentación eléctrica antes de dar servicio, poner en marcha, retirar de servicio y desmontar. La instalación y la puesta en marcha de este producto se deben llevar a cabo por un electricista cualificado de acuerdo con las normas de instalación y regulaciones de seguridad. Antes de instalar el contactor, asegúrese de que la alimentación de tensión de control corresponda a la tensión de control indicada. No se deben realizar pruebas de alta tensión de los terminales de control (A1 y A2). La aplicación de tensión de control incorrecta o alta tensión incorrecta a los terminales puede dañar los circuitos de control electrónicos del contactor. No toque partes activas.

Внимание!

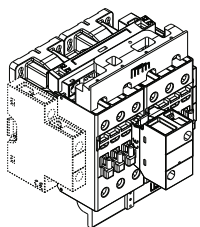
Опасность поражения электрическим током. Отключите питание перед выполнением обслуживания, ввода в эксплуатацию, вывода из эксплуатации и демонтажа. Монтаж и ввод данного изделия в эксплуатацию должен выполняться квалифицированным электриком в соответствии со стандартами электрического монтажа и правилами техники безопасности. Перед установкой контактора убедитесь в том, что подаваемое управляющее напряжение соответствует управляющему напряжению, указанному на паспортной табличке. Запрещается проводить высоковольтные испытания через клеммы управления (A1 и A2). Приложение некорректного управляющего напряжения или высокого напряжения к клеммам может повредить электронные цепи управления контактора. Не прикасайтесь к деталям, находящимся под напряжением.

注意!

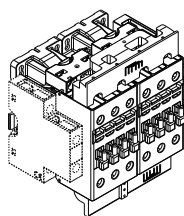
电击危险。请在维修、调试、撤拆和拆解前断开电源。本产品的安装和调试必须由具有资质的电工根据安装标准和安全法规来执行。安装接触器前，确保控制电源电压与标识的控制电压一致。控制端子之间（A1 和 A2）不得执行高压测试。在此类端子间施加错误的控制电压或高压会损坏接触器的电子控制电路。不得触碰带电部件。

주의!

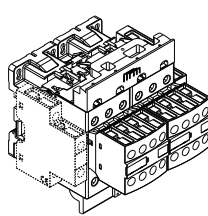
감전 위험, 작동, 시운전, 해체 및 철거 전에 전원을 분리하십시오. 이 제품의 설치 및 시운전은 설치 표준 및 안전 규정에 따라 자격을 갖춘 전기기사만 수행할 수 있습니다. 컨택터를 설치하기 전에 제어 전압 공급이 표시된 제어 전압과 일치하는지 확인하십시오. 고전압 테스트는 제어 단자 (A1 및 A2) 전체에 걸쳐 수행하면 안 됩니다. 단자 전체에 걸쳐 잘못된 제어 전압이나 고전압을 적용하면 컨택터의 전자 제어 회로가 손상될 수 있습니다. 전기가 흐르는 부품을 만지지 마십시오.



104-E09...E16**22
 305-TO...AO**23
 104-E26...E38**02
 305-BO**23



104-E09...E16**02
 305-TO...AO**23Z
 305-TO...AOQJ-23Z
 104-E26...E38**22
 305-BO**23Z
 305-BOQJ-23Z



104S-E09...E16**28C
 104S-E26...E38**66C



A1
 A2

Uc ≥ 24V 50/60Hz
 Uc ≥ 20V DC
 104(S)-E09...E96
 305-TO...DO



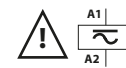
A1
 A2

Uc = 12 - 20 V DC
 305-TOEQ...BOEQ



A1
 A2

Uc = 24 V DC
 305-TOQJ...BOQJ



A1
 A2

104(S)-E09KY...96KY
 305-TOY...DOY

Notice! This product has been designed for environment A. Use of this product in environment B may cause unwanted electromagnetic disturbances in which case, the user may be required to take adequate mitigation measures.

Avviso! Este produto foi projetado para o ambiente A. O uso deste produto em ambiente B pode causar perturbações eletromagnéticas indesejadas, cujo caso o usuário poderá ser obrigado a tomar medidas de mitigação adequadas.

Attention! Ce produit est conçu pour un environnement A. L'utilisation de ce produit dans un environnement B peut provoquer des perturbations électromagnétiques indésirables, auquel cas l'utilisateur devra peut-être prendre des mesures d'atténuation appropriées.

Avviso! Questo prodotto è stato concepito per essere utilizzato in ambiente A. L'utilizzo di questo prodotto in ambiente B può comportare la generazione di interferenze elettromagnetiche indesiderate per cui l'utente dovrebbe adottare le necessarie contromisure.

Hinweis! Dieses Produkt ist für Umgebung A ausgelegt. Die Verwendung dieses Produkts in Umgebung B kann zu unerwünschten elektromagnetischen Störungen führen. In diesem Fall muss der Benutzer entsprechende Gegenmaßnahmen ergreifen.

¡Avviso! Este producto ha sido diseñado para el ambiente A. El uso de este producto en el ambiente B puede provocar perturbaciones electromagnéticas no deseadas. En tal caso el usuario puede tener que tomar medidas de mitigación apropiadas.

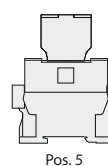
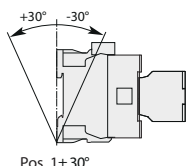
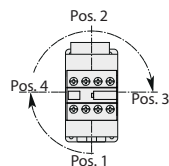
Примечание! Данный продукт был разработан для среды класса А. Использование этого продукта в среде класса В может вызвать нежелательные электромагнитные помехи. В этом случае от пользователя может потребоваться принятие адекватных мер по их предотвращению.

注意! 本产品设计用于环境 A。在环境 B 中使用本产品可能会导致有害的电磁干扰，用户在这种情况下需要采取充分的缓解措施。

참고! 이 제품은 환경 A에 맞게 설계되었습니다. 이 제품을 환경 B에서 사용하면 전자파 장애가 발생해 사용자가 적절한 완화 조치를 취해야 할 수 있습니다.

	305-TO...AO**23Z 305-BO**23Z 104-E26...E38**22 305-TO...BOQJ-23Z	305-TO...AO**23 104-E09...E16**22 305-TO...AOQJ-23Z 104-E26...E38**02	305-BO**23	104-E09...E16EJ02	104S-E09...E16**28C	104S-E26...E38**66C
Pos. 1,2,3,4	max 4 aux contacts* / 3NC**	max 5 aux contacts* / 3NC**	max 3 aux contacts* / 2NC**	max 6 aux contacts* / 3NC**	max 1x 100-ESA11 100-ESB11	max 0 aux contacts* / 0NC**
Pos. 1±30°, 5	max 4 aux contacts* / 2NC**	max 5 aux contacts* / 2NC**	max 3 aux contacts* / 1NC**	max 6 aux contacts* / 2NC**	max 0 aux contacts* / 0NC**	max 0 aux contacts* / 0NC**

⚠ 100-EFAL: *max 1x 100-EFAL10 + 1x 100-EFAL01 / ** max NC -1



104-E09...E16 305-TO...AO		M 3.5 1.5 N.m 13 lb.in	Ø 5.5 (Ø 0.22)	pozitivn # 2	2 x 1..6 (2 x 16...10)	2 x 0.75..6	2 x 0.75...2.5 1 x 0.75...4	L = 10 (L = 0.39)	L < 9.6 (L < 0.38)	-
104-E26...E38 305-BO		M 4 2.5 N.m 22 lb.in	Ø 6.5 (Ø 0.23)		2 x 2.5...10 (2 x 14...8)	2 x 1.5...10	2 x 1.5...4 1 x 1.5...10	L = 14 (L = 0.55)	L < 12.5 (L < 0.49)	-
104-E09...E38 305-TO...BO		M 3.5 1.2 N.m 11 lb.in	Ø 5.5 (Ø 0.22)		2 x 1...2.5 (2 x 18...14)	2 x 0.75...2.5	2 x 0.75...1.5 1 x 0.75...2.5	L = 10 (L = 0.39)	L < 8 (L < 0.31)	-
104-E09...E38 305-TO...BO		M 3.5 1.2 N.m 11 lb.in	Ø 5.5 (Ø 0.22)		2 x 1...2.5 (2 x 18...14)	2 x 0.75...2.5	2 x 0.75...1.5 2 x 0.75...1.5	L = 10 (L = 0.39)	L < 8 (L < 0.31)	-
100-EFA... 100-EFB... 100-EFC... 100-ESA11 100-ESB11		M 3.5 1.2 N.m 11 lb.in	Ø 5.5 (Ø 0.22)		2 x 1...2.5 (2 x 18...14)	2 x 0.75...2.5	1 x 0.75...2.5 2 x 0.75...1.5	L = 10 (L = 0.39)	L < 8 (L < 0.31)	-
100-EMCA02		M 3.5 1.2 N.m 11 lb.in	Ø 5.5 (Ø 0.22)		2 x 1...2.5 (2 x 18...14)	2 x 0.75...2.5	1 x 0.75...2.5 2 x 0.75...1.5	L = 10 (L = 0.39)	L < 8 (L < 0.31)	-
A2		M 3.5 1.2 N.m 11 lb.in	Ø 5.5 (Ø 0.22)		2 x 1...2.5 (2 x 18...14)	2 x 0.75...2.5	1 x 0.75...2.5 2 x 0.75...1.5	L = 10 (L = 0.39)	L < 8 (L < 0.31)	-

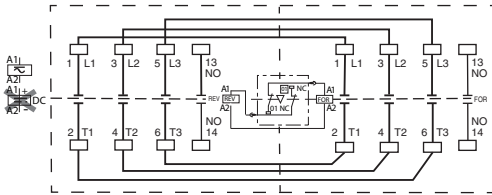
According to UL 60947-4-1 and CAN/CSA-C22.2 No. 60947-4-1 suitable for use on a circuit capable of delivering not more than the max. symmetrical amperes at the max. voltage shown in the table below.
 WARNING : If opening of BCP, controller shall be examined and replaced if damaged.
 ATTENTION : Si le circuit de protection est ouvert, le contacteur doit être examiné et remplacé au besoin.

Max Fuse A / Class	104(S)-E09...12 305-TO...AO		104(S)-E16 305-BO		104(S)-E26 305-BO		104(S)-E30...38	
	30/RKS	30/J	60/RKS	60A/J	60/RKS	60/J	100/RKS	100/J
Max Short-Circuit at 480 and 600V (kA)	5	100	5	100	5	100	5	100
Circuit Breaker	140G-H 305-TO...AO		140G-G6 305-BO		140G-H6		140G-H0	
Max Circuit Breaker A	60		125		100		100	
Max Short-Circuit at 480V (kA)	10		65		65		100	
Max Short-Circuit at 600V (kA)	10		-		25		35	

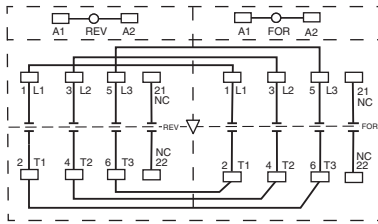
Acc. to UL 60947-4-1 and CAN/CSA-C22.2 No. 60947-4-1, min. enclosure for:
 104(S)-E09...E16, 305-TO...AO : 180 X 150 X 150 mm
 104(S)-E26...E38, 305-BO : 255 X 180 X 175 mm

Typical Wiring Diagram

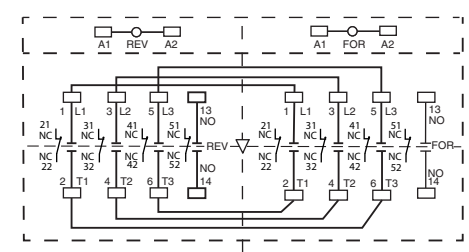
104-E09...E16**22 Wiring Diagram



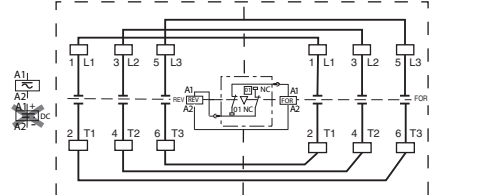
104-E09...E16EJ02 Wiring Diagram



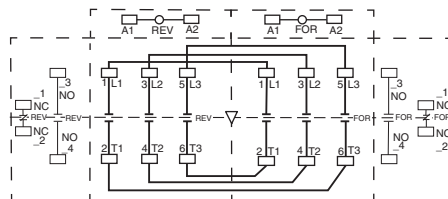
104S-E09...E16**28C Wiring Diagram



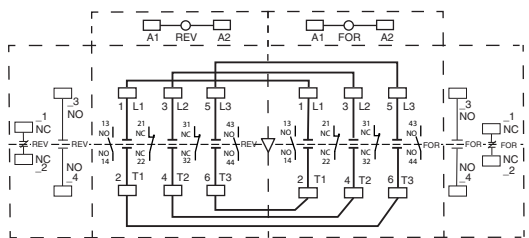
104-E26...E38**02 Wiring Diagram



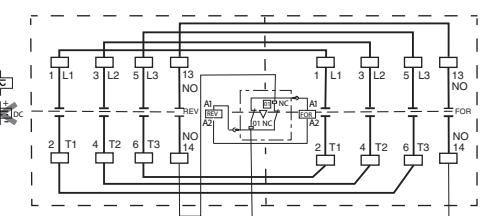
104-E26...E38**22 Wiring Diagram



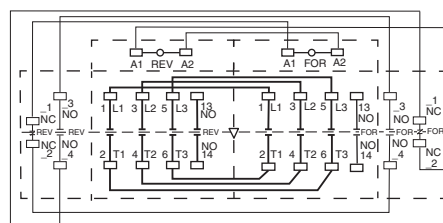
104S-E26...E38**66C Wiring Diagram



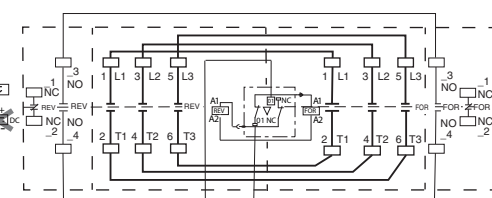
305-TO...AO**23 Wiring Diagram



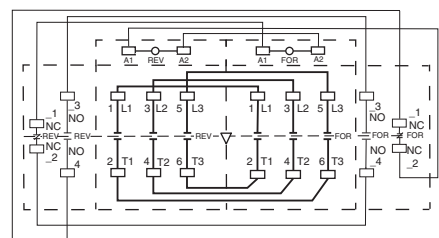
305-TO...AO**23Z Wiring Diagram



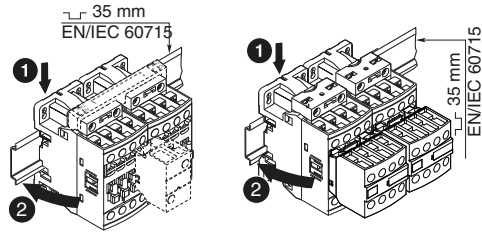
305-BO**23 Wiring Diagram



305-BO**23Z Wiring Diagram

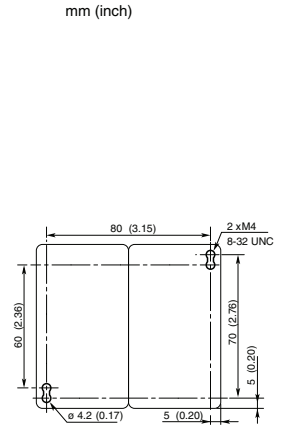
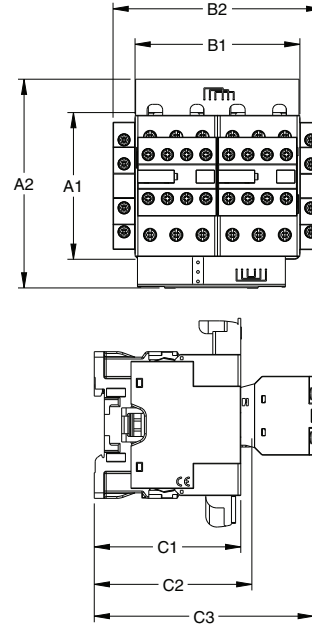
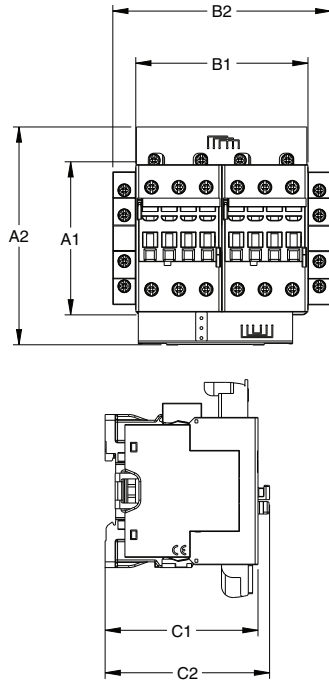
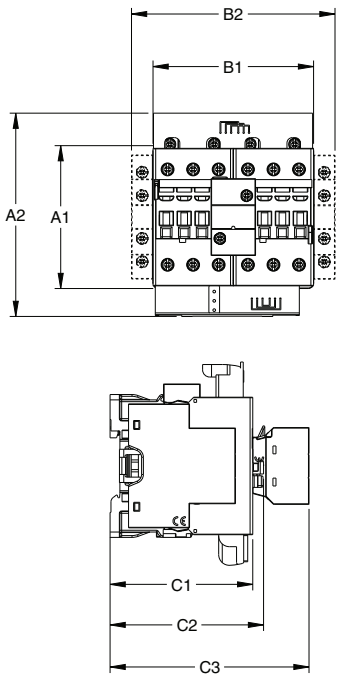


Assembly - Montagem - Montage - Montaggio - Anbau - Montaje - Монтаж - 安装 - 조립



104-E09...E38
305-TO...BO

104S-E09...E38

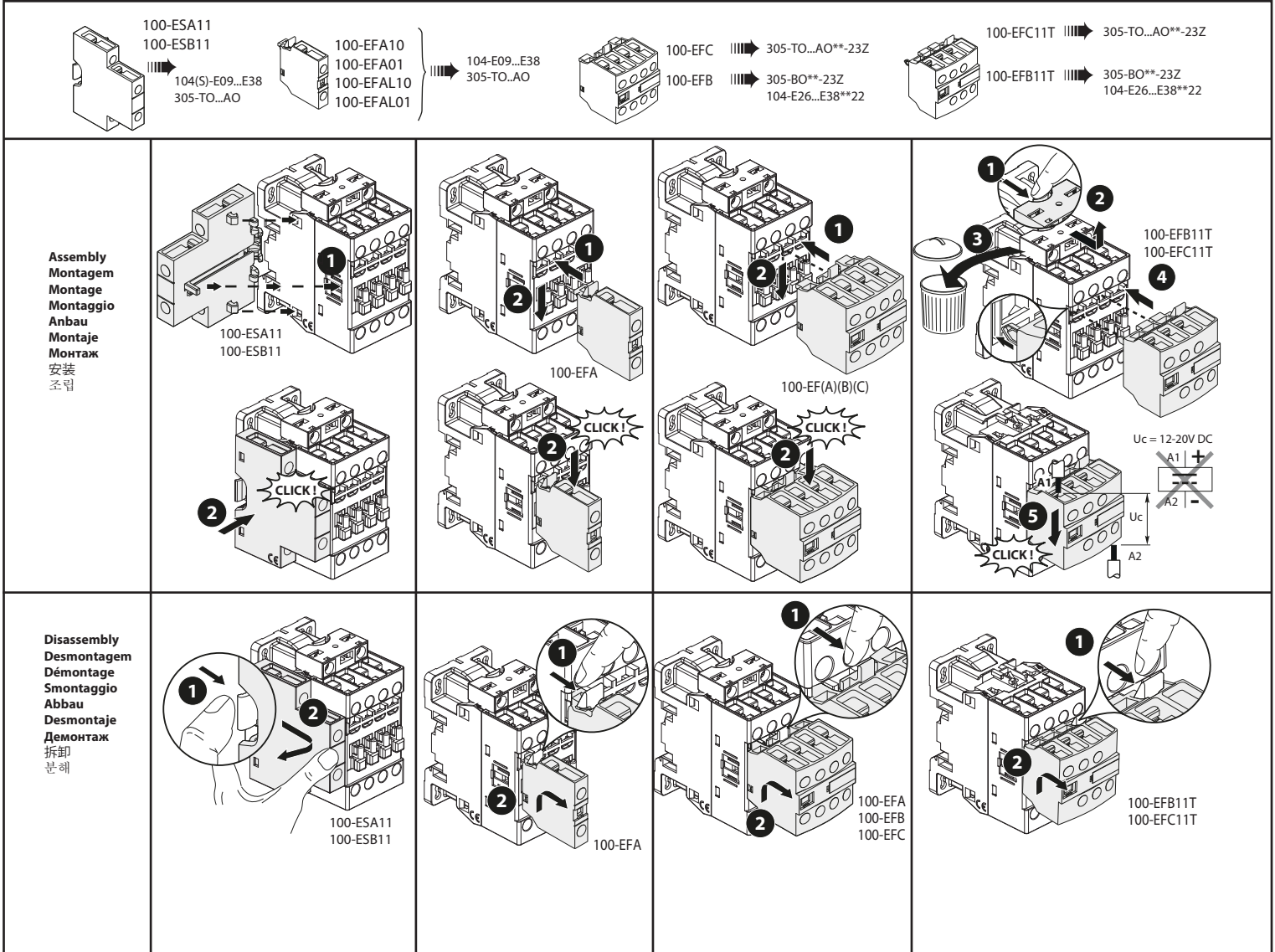






104-E09...E38
305-TO...BO
104(S)-E09...E38

Cat. No.	Dimension mm (inch)						
	A1	A2	B1	B2	C1	C2	C3
104-E09...E16**22	80	104	90	---	71	77	102.5
305-TO...AO**23	80	114.1	90	---	80	86	111.5
104-E26...E38**02	80	114.1	90	114	80	86	111.5
305-BO**23	80	114.1	90	114	80	86	111.5

Cat. No.	Dimension mm (inch)					
	A1	A2	B1	B2	C1	C2
104-E09...E16EJ02	80	104	90	---	71	77
305-TO...AO**23Z	80	104	90	114	71	77
305-TO...AOQJ-23Z	80	104	90	114	91	97
104-E26...E38**22	80	114.1	90	114	80	86
305-BO**23Z	80	114.1	90	114	100	106

Cat. No.	Dimension mm (inch)						
	A1	A2	B1	B2	C1	C2	C3
104(S)-E09...E16**28C	80	104	90	---	71	77	110.5
104(S)-E26...E38**66C	80	114.1	90	114	80	86	119.5



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Rockwell Automation maintains current product environmental compliance information on its website at rok.auto/pec.

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