socomec
Innovative Power Solutions

USER MANUAL

EN FR ES page 1
ZH page 9

www.socomec.com

INOSYS LBS

PV / DC switches with tripping function – 100 to 800 A
IEC: 84Pxxxxx / IEC & UL: 85Pxxxxx

548033A

❶	IEC	160 A / 250 A / 315 A	
	UL	100 A / 200 A / 250 A	
❷	IEC	400 A / 630 A / 800 A	
	UL	275 A / 325 A / 400 A / 500 A	

⚠ DANGER / DANGER / PELIGRO

EN This equipment must be installed and serviced only by qualified electrical personnel.

⚠ HAZARDOUS VOLTAGE
- Turn off all power supplying this equipment before working on or inside equipment.
- Always use a properly rated voltage sensing device to confirm power is off.
- Replace all devices, doors, and covers before turning on power to this equipment.
- Maintain electrical clearances between cable and live parts.
- Unless otherwise noted, use the screws and nuts provided.
- As a general rule to low voltage insulation safety, auxiliary contacts position are not a safety device. When used to report the position of the main contacts, additional measures such as padlocking or checking that the installation is proven dead, must be taken.

Failure to follow these instructions will result in death or serious injury.

FR L'installation et l'entretien de cet appareil ne doivent être effectués que par du personnel qualifié.

⚠ TENSION DANGEREUSE
- Coupez l'alimentation de cet appareil avant d'y travailler.
- Utilisez toujours un dispositif de détection de tension à valeur nominale approprié pour confirmer que toute alimentation est coupée.
- Replacez tous les dispositifs, les portes et les couvercles avant de mettre cet appareil sous tension.
- Maintenez les distances d'isolement électrique entre le câble et les pièces sous tension.
- Sauf mention contraire, utiliser les vis et écrous fournis.
- Dans les règles générales pour l'isolement de sécurité en basse tension, les contacts auxiliaires ne sont pas des dispositifs de sécurité. Lorsqu'ils sont utilisés pour signaler le positionnement de contacts principaux, des mesures supplémentaires telles que le cadenassage ou la vérification que l'installation est coupée, doivent être prises en compte.

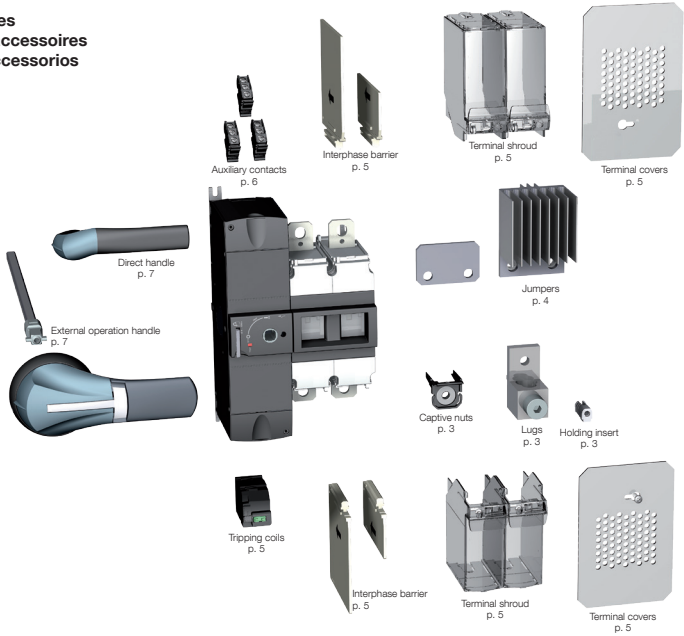
Si ces précautions ne sont pas respectées, cela entraînera la mort ou des blessures graves.

ES Este equipo debe ser instalado y operado únicamente por personal cualificado.

⚠ TENSIÓN PELIGROSA
- Desconectar cualquier suministro eléctrico al equipo antes de trabajar con el mismo.
- Utilizar siempre un multímetro correctamente calibrado para confirmar que el equipo no está alimentado.
- Vuelva a colocar todos los dispositivos, puertas y cubiertas antes de volver a dar tensión al equipo.
- Mantenga las distancias eléctricas adecuadas entre el cable y las partes activas.
- A menos que se indique lo contrario, utilice los tornillos y tuercas.
- Como norma general para el aislamiento de seguridad en baja tensión, los contactos auxiliares de posición no son un dispositivo de seguridad. Cuando son utilizados para indicar la posición de los contactos, deben tomarse medidas adicionales como el bloqueo por candado o la comprobación de que la instalación está totalmente aislada.

No seguir estas instrucciones puede provocar daños graves e incluso la muerte.

Switch and accessories
L'interrupteur et ses accessoires
El interruptor y sus accesorios



Keep the instruction sheet, it is necessary for the mounting of the accessories. Non contractual document.
Ne jetez pas cette notice : elle sera nécessaire pour le montage des accessoires. Document non contractuel.
No tirar este manual, porque es necesario para el montaje de los accesorios. Documento no contractual.

Dual dimensions in/mm
Double dimensions in/mm
Dimensiones duales in/mm

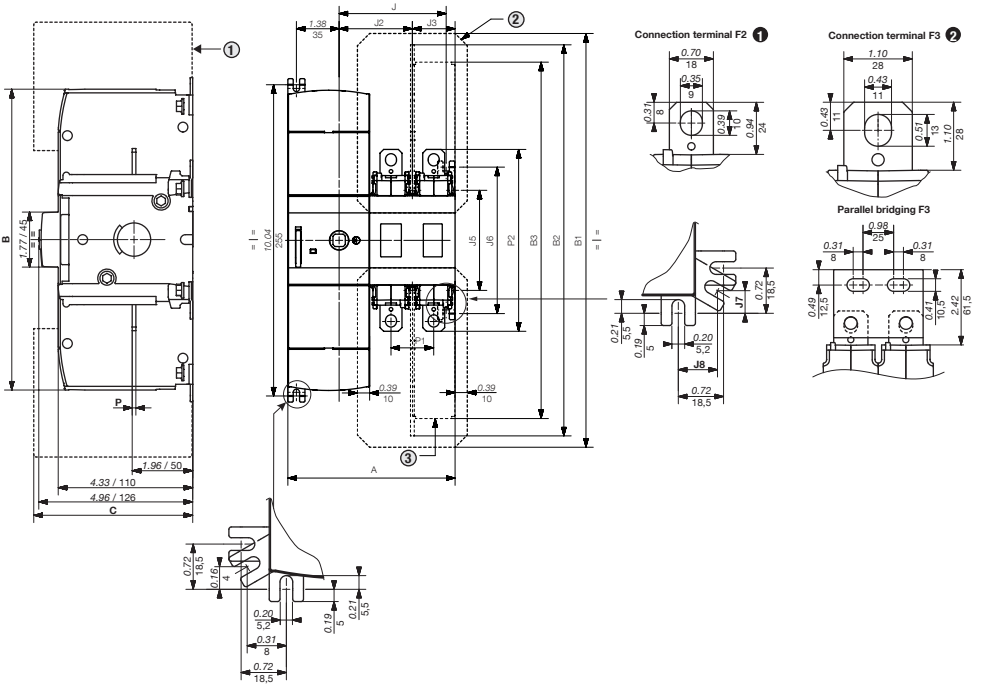
① Interphase barrier
Ecrans entre phase
Pantalla de separación entre pletinas

② Terminal screens
Ecran de protection de plages
Pantallas de protección

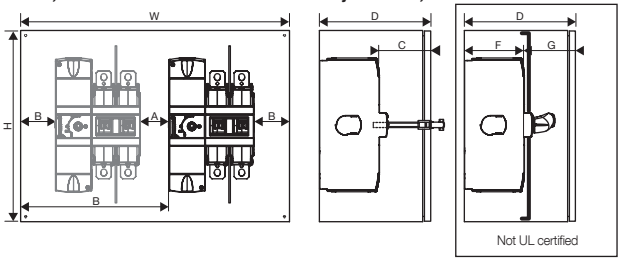
③ Terminal shroud
Caches bornes
Cubrebornes

		A
		2 P
❶	*in*	*5.39*
	mm	137
❷	*in*	*6.18*
	mm	157

		B	B1	B2			B3	C		J2	J3	J4	J5	J6	J7	J8	P	P1	P2
				IEC short	IEC long	UL		IEC	UL										
❶	*in*	*9.69*	*13.35*	*7.85*	*12.61*	*10.31*	*11.64*	*4.33*	*4.33*	*2.36*	*1.38*	*3.03*	*3.23*	*4.72*	*0.39*	*0.58*	*0.12*	*1.38*	*5.87*
	mm	246	339	199	320	262	296	110	110	60	35	77	82	120	10	15	3	35	149
❷	*in*	*9.69*	*16.28*	*9.35*	*14.11*	*15.50*	*14.12*	*4.33*	*5.31*	*2.76*	*1.77*	*3.43*	*4.72*	*6.22*	*0.16*	*0.33*	*0.20*	*1.77*	*7.87*
	mm	246	414	237	358	394	359	110	135	70	45	87	120	158	4	8	5	45	200



Minimum enclosure dimensions UL98B, IEC / Dimensions minimum des coffrets UL98B, IEC / Dimensiones minimas de las cajas UL98B, IEC

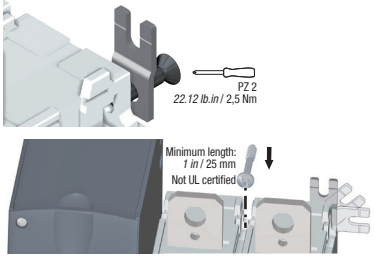


Minimum UL enclosure size		❶	❷			
		100-250A	275A	325A	400A	500A
1P H x W x D	*in*	*24x16x6*	*40x24x8*	*36x24x8*	*36x24x8*	*36x24x8*
	mm	609x406x152	1016x609x203	914x609x203	914x609x203	914x609x203
2P H x W x D	*in*	*24x16x6*	*36x24x8*	*36x24x8*	*36x24x8*	*36x24x8*
	mm	609x406x152	914x609x203	914x609x203	914x609x203	914x609x203

Clearance	❶		❷	
	in	mm	*in*	mm
A min.	*2.00*	50,8	*3.00*	76.2
B min.	1.00	25,4	1.50	38.1
C min.	*0.87*	22	*1.08*	27.5
F min.	4.33	110	5.41	137.5
G min.	*0*	0	*0.5*	12.7

External enclosure dimension.
Dimension extérieure du coffret.

Mounting / Montage / Montaje



Mounting orientation / Sens de montage
Sentido de montaje

All mounting orientations are possible.
Derating may apply - please consult us.

Connection with LUGS (UL application) - Raccordement avec bornes à cage (application UL) - Conexión con bornes (aplicación UL)

⚠ CHECK FOR PROPER ELECTRICAL CLEARANCES.
❶ For applications up to 1500V, maintain at least 1" clearance between adjacent power terminal lugs and at least 1.06" clearance between any live part and the device enclosure or mounting plate.
❷ For applications up to 1500V, maintain at least 1" clearance between adjacent power terminal lugs and at least 0.83" clearance between any live part and the device enclosure or mounting plate.

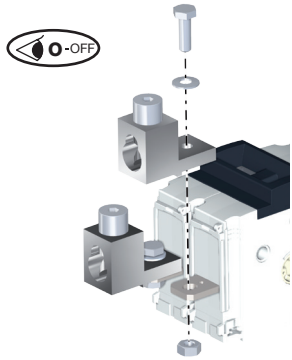
⚠ VERIFIER LES DISTANCES D'ISOLEMENT.
❶ Jusqu'à 1500V il faut maintenir au minimum 25.4 mm entre chaque borne et 27 mm entre chaque pièce sous tension et le coffret ou platine de montage.
❷ Jusqu'à 1500V il faut maintenir au minimum 25.4 mm entre chaque borne et 21 mm entre chaque pièce sous tension et le coffret ou platine de montage.

⚠ VERIFICAR LAS DISTANCIAS DE AISLAMIENTO.
❶ Hasta 1500V es necesario mantener como mínimo 25.4 mm de distancia entre cada borne y 27 mm entre cada una de las piezas bajo tensión y la caja o placa de montaje.
❷ Hasta 1500V es necesario mantener como mínimo 25.4 mm de distancia entre cada borne y 21 mm entre cada una de las piezas bajo tensión y la caja o placa de montaje.

	Designation Désignation Designación	Ref. lugs (1) Réf. bornes à cage (1) Ref. bornes (1)	Quantity per reference Quantité par ref Cantidad por referencia	Openings per lug Nombre de points de connexion Numero de puntos de conexión	Size Section Sección (AWG)		Pressure screw torque Couple de serrage vis de pression Par de apriete tornillo de presión			Bolt torque Couple de serrage boulon Par de apriete tornillo			Y	
					min.	max.	*lb.in*	Nm	Size	*lb.in*	Nm	Size	*in*	mm
❶	IHI 2S2-0-TP-STK-34-49-HEX	39542023 (2)	2	2	Cu:14, Al:12 8 6 3	10 8 4 2/0	*35* *40* *45* *50*	4 4,5 5,1 5,6	◯ 3/16	*160*	18	⬢ 13	*1.29*	32,5
		39543023 (2)	3											
		39544023 (2)	4											
❷	CMC LA630-R	39542040 (2)	2	1 2	4 1/0	600 KCMIL 250 KCMIL	*550*	62,1	◯ 1/2	*310*	35	⬢ 15 17	*1.79*	45,7
		39543040 (2)	3											
		39544040 (2)	4											
	CMC PV2-600	39542060 (2)	2	2	2	600 KCMIL	*375*	42,4	◯ 3/8				*2.74*	69,7
		39543060 (2)	3											
		39544060 (2)	4											

(1) Interphase barriers must be installed on the products / Les écrans entre phase doivent être installés sur les produits.
(2) Captive nut 84996xxx is mandatory (see «Mounting of captive nuts», page 3) / Ecrou captif 84996xxx est obligatoire (voir «Mounting of captive nuts», page 3).

Without accessories



Recommended connection with cables or bars (IEC application)
Raccordement câble ou barre recommandé (application CEI)
Conexión recomendada para cables y pletinas (aplicación IEC)

⚠ CHECK FOR PROPER ELECTRICAL CLEARANCES.
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	Ie	Nominal Cu cable section Section nominale câbles rigides Cu Sección máx. de cables de cobre rígidos	Nominal Al cable section Section nominale câbles rigides Al Sección máx. de cables de Alu. rígidos	Maximum busbar width Largeur max. barre Largo máx. barra		Tightening torque Couple de serrage Par de apriete	Size
				Non isolated bars	Isolated bars with interphase barrier		
❶	**160A (1)**	70mm²	120mm²	≤ 20mm	≤ 25mm	*159.31 lb.in* 18 Nm	⬢ 13
	250A (1)	120mm²	185mm²				
	315A (1)	185mm²	2 x 120mm²				
❷	**400A (1)**	240mm²	2 x 150mm²	≤ 25mm	≤ 32mm	*309.77 lb.in* 35 Nm	⬢ 15-17
	630A (1)	2 x 185mm²	2 x 300mm²				
	800A (1)	2 x 240mm²	3 x 240mm²				

(1) Long interphase barriers 8499221X must be installed on the products / Les écrans entre phase longs 8499221X doivent être installés sur les produits.

Mounting of jumpers - Montage des barres de pontage - Montaje de las pletinas de unión

Fig. A

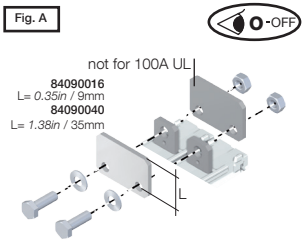
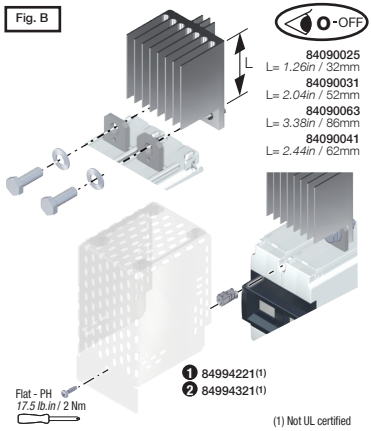


Fig. B



(1) Not UL certified

Grounded Network

				1 PV circuit Up to 1500 VDC 2P Ref.	Fig.	Tightening torque Couple de serrage Par de apriete	Size	
	1	UL	100A / 200A	84090016	A	159.31 lb.in 18 Nm	⬢	13
			250A					
	2	UL	275A	84090040	A	309.77 lb.in 35 Nm	⬢	15-17
			325A					
			400A					
			500A	84090041 84090063	B			

(1) Not UL certified

Pole connection in series - Configuration raccordement - Conexión de los polos en serie

⚠ COMPULSORY

For comprehension reason, only one type of connection is shown. As all poles are independent and non polarized, the pole connections in series can be done between adjacent or non-adjacent poles and on the same or opposite side of the product. The minimum number of pole to be connected in series must be as shown below for the given technical characteristics. Wire bending space as well as spacings have to be according to NEC or relevant installation standard. For this, the enclosure dimension might have to be increased.

For bridging bar and serial connections not supplied by Socomec, thermal effect have to be checked.

For multi-circuit products, the signs ① represent wiring for each circuit.

2 or more separated circuits can also be connected together on the inverter side.

⚠ For multiple polarity switching (ungrounded systems or multiple circuit switching), interphase barrier must be installed before energizing

⚠ OBLIGATOIRE

Pour une meilleure compréhension, seul un type de raccordement est décrit. Tous les pôles sont indépendants et non polarisés, le raccordement des pôles en série peut être réalisé entre pôles adjacents ou non, sur le même côté ou le côté opposé du produit. Le nombre minimum de pôles à raccorder en série doit correspondre aux indications ci-dessous pour les caractéristiques techniques mentionnées. Le rayon de courbure des câbles ainsi que les distances entre conducteurs/parois doivent être selon le NEC ou la norme d'installation. Pour cela, la dimension minimum du coffret pourrait être augmentée. Pour les connexions série entre pôles/barres de pontages non fournis par Socomec, les impacts thermiques doivent être vérifiés.

Pour les produits multi-circuits, les chiffres ① indiquent le raccordement de chaque circuit.

2 circuits ou plus peuvent aussi être connectés ensemble du côté de l'onduleur.

⚠ Pour la coupure de plusieurs polarités (réseau isolé avec coupure du + et – ou coupure de plusieurs circuits), les écrans entre phase doivent être installés sur le produit.

⚠ OBLIGATORIO

Para mayor claridad, sólo se describe un tipo de conexión. Todos los polos son independientes y sin polarización así que la conexión de los polos en serie se puede realizar entre polos que están contiguos o no, en el mismo lado o en el lado opuesto del producto. El número mínimo de polos a conectar en serie debe corresponder a las siguientes indicaciones para las características técnicas mencionadas. El radio de curvatura de los cables y las distancias entre las partas activas y pasivas respetar las normas de instalación NEC. Por ello, la dimensiones mínimas de la envolvente deberían ser aumentadas. Para la conexión serie entre los polos / pletinas de puenteado no suministradas por Socomec deben ser verificados los efectos térmicos.

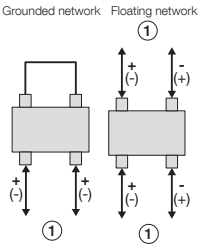
Para productos con multi-circuitos, las cifras ① y representan la conexión de cada circuito.

2 o varios circuitos separados se pueden conectar juntos en el lado del inversor.

⚠ Para cortar varias polaridades (red aislada o corte multi-circuitos), se deben instalar los cubrebornes en el producto.

1 PV circuit - up to 1500 VDC

Grounded network Floating network



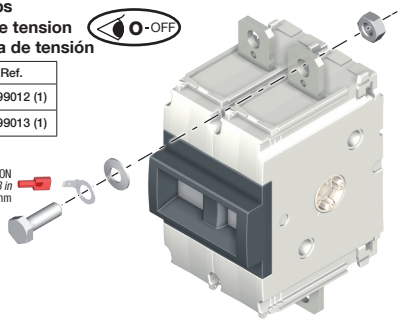
① *Circuit 1*

Grounded systems: in some installation standards, this configuration might not be allowed.
For ungrounded systems, see NEC 690.35 (NEC2008, NEC2011, NEC2014, NFPA70).

Voltage taps
Cosse prise tension
Kit de toma de tensión

O-OFF

	Ref.
❶	84999012 (1)
❷	84999013 (1)

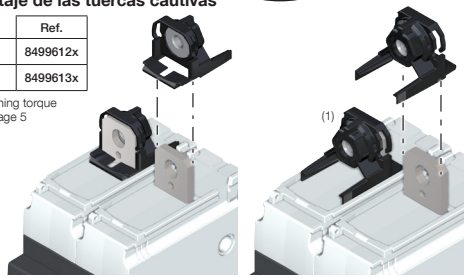


Mounting of captive nuts
Montage écrou captif
Montaje de las tuercas cautivas

O-OFF

	Ref.
❶	8499612x
❷	8499613x

Tightening torque
see: page 5

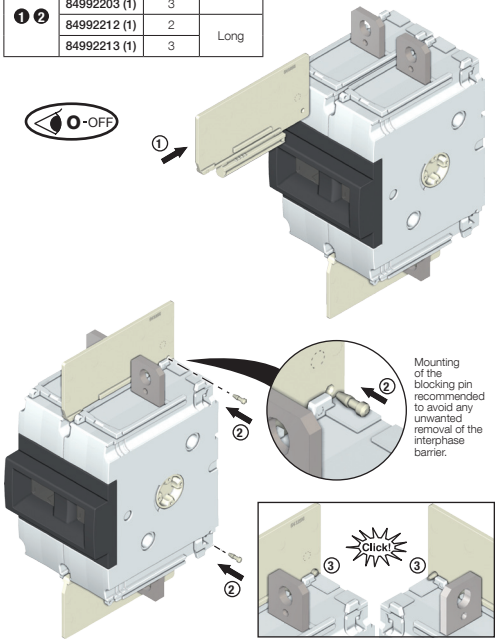


Interphase barrier mounting
Montage des écrans entre phase
Montaje de pantalla de separación entre pletinas

For products not delivered with interphase barriers, the reference are:

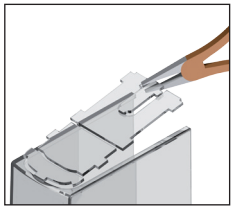
	Ref.	Set of	Size
❶ ❷	84992202 (1)	2	Short
	84992203 (1)	3	
	84992212 (1)	2	Long
	84992213 (1)	3	

O-OFF

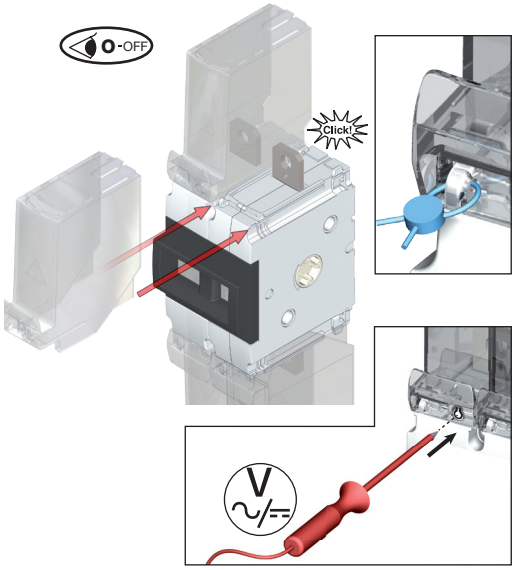


Terminal shroud mounting
Montage des caches bornes
Montaje cubrebornes

	Ref.	Nb of poles	Position
❶	849942x3	3	Top or bottom
	849942x4	4	
❷	849943x3	3	
	849943x4	4	



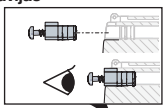
O-OFF



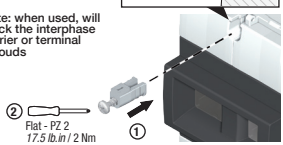
Mounting of holding insert
Montage chevilles
Montaje de las clavijas

O-OFF

	Ref.
❶ ❷	8499622x



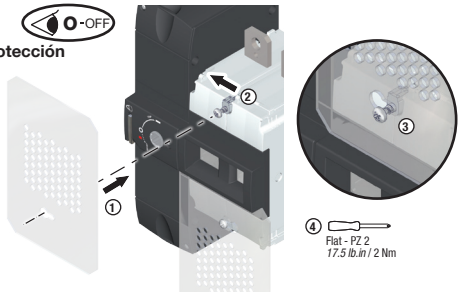
Note: when used, will block the interphase barrier or terminal shrouds



Mounting of terminal covers
Montage des capots
Montaje de las pantallas de protección

O-OFF

	Ref.	Nb of poles	Position
❶	84993222	2P	Top and bottom
❷	84993322 (1)	2P	
	84993722	2P	



(1) Not UL certified

Mounting of auxiliary contacts
Montage des contacts auxiliaires
Montaje de los contactos auxiliares

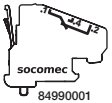
	Ref.	Type	Min. current (A)	I_{th} (A)	Operating Current I_e (A)				
					24 VDC	48 VDC	230 VDC	440 VDC	690 VDC
					DC-14	DC-14	AC-15	AC-15	AC-15
❶	84990001	NO/NC standard	12.5 mA / 24 V	10	1	0.2	4	4	-
❷	84990002	NO/NC low level	1 mA / 4 V	10	1	0.2	2	1	-
	84990003	NC 600V	10 mA / 24 V	10	1	0.2	4	4	0.5

Line terminals of the two auxiliary contacts placed side by side must be of the same polarity. Surrounding temperature max: 75 °C (UL only).

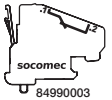
Les raccordements entre deux contacts auxiliaires côte à côte doivent être de la même polarité. Température de proximité max: 75 °C (UL seulement).

Conexiones de entrada de los contactos auxiliares adyacentes deben ser de la misma polaridad. Temperatura cerca max: 75 ° C (sólo UL).

O-OFF



84990001
84990002



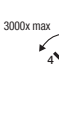
84990003

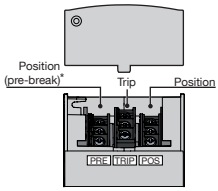
Cu cable section - 75 °C or higher
Section câbles Cu - 75 °C ou plus
Ith = 10A

Flexible, with cable end *(IEC only)*
min 1x 0,5 mm²
max 1x 2,5 mm² / 2x 1,5 mm²

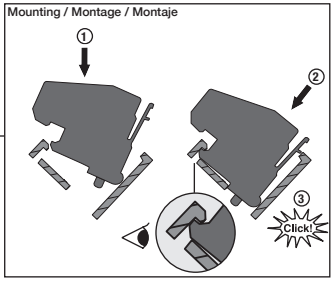
Stranded/Solid *(IEC / UL)*
AWG min 1x 20 / 2x 16
AWG max 1x 14 / 2x 14
min 1x 0,5 mm² / 2x 1,5 mm²
max 1x 2,5 mm² / 2x 2,5 mm²
0.31in / 8mm

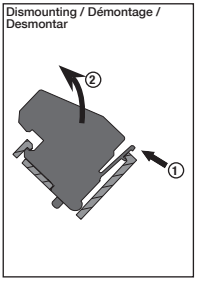
Flat 5 - PZ 2 - *7.08 lb.in* / 0,8 Nm

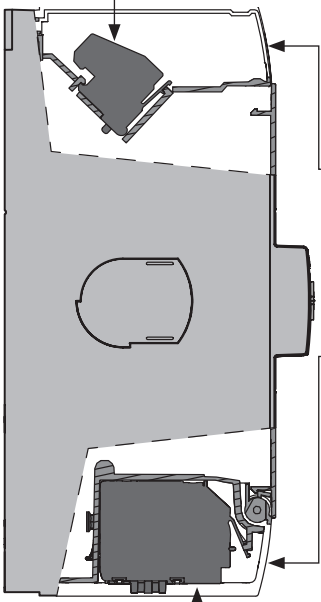


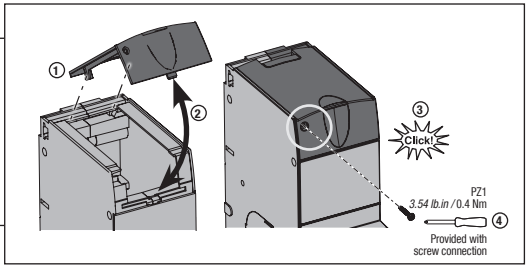


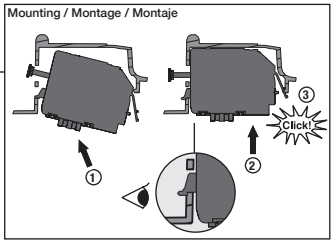
* Pre-break only for manual operation

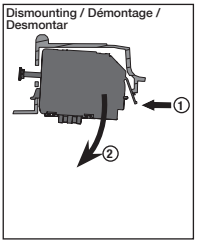












Tripping coils mounting
Bobines de déclenchement
Bobinas de disparo

O-OFF

	Ref.	
❶ ❷	84997xxx	Shunt trip coil Bobine de déclenchement Bobina de emisión
	84998xxx	Undervoltage release Bobine à manque Bobina de disparo de mínima tensión

Cu cable section
Section câbles Cu
Sección de cables de cobre

Non polarized coil, all wiring possible.

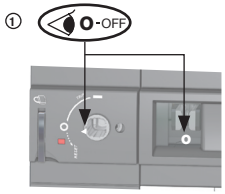
Flexible, with cable end *(IEC only)*
min 0,25 mm²
max 1,5 mm²

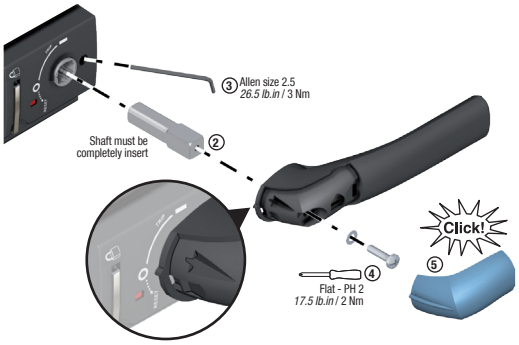
Stranded/Solid *(IEC / UL)*
AWG min 26
AWG max 14
min 0,14 mm² - max 2,5 mm²
0.31in / 8mm

⚠ Shunt trip coil must not be permanently powered, Max supply = 2sec /min.
Example to avoid permanent supply includes connection of auxiliary contact connected in series with shunt trip coil, or coil supply voltage to be taken from the load side, or electronic limitation of the duration of the supply voltage/current.
For DC shunt trip coil rated above 70VDC, external relay shall be used to disconnect the coil.

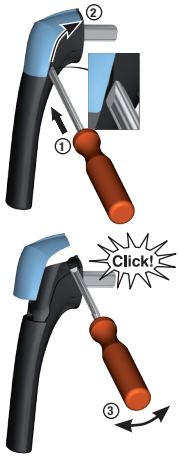
Direct handle mounting
Montage poignée direct
Montaje mando directo

	Ref.	Color
❶	849950x2 (1)	Black
❷	849950x3 (1)	Red



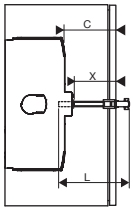


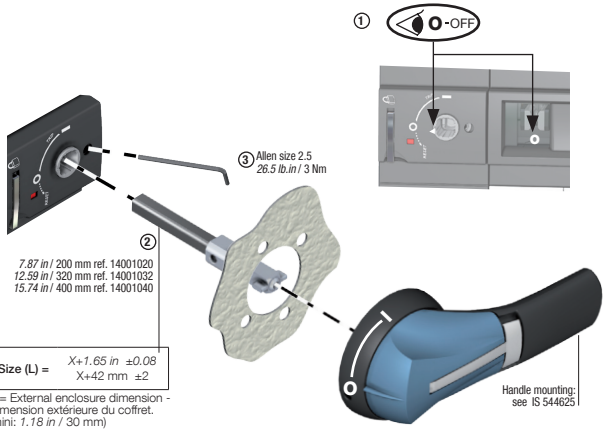
Cover dismantling
Démontage du capot
Desmontar la cubierta



External operation handle
Commande frontale
Mando frontal

	Ref.	Color
	74212118 (1)	Black
	74A12118 (1)	
	742F2118	
	74AF2118	
❶	742G2118	Red
❷	74AG2118	
	742D2118	Black
	74AD2118	
	742E2118	Red
	74AE2118	

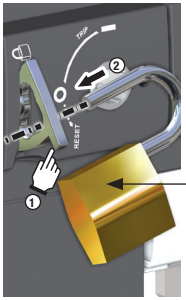




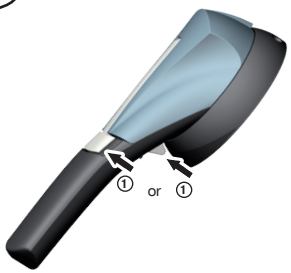
Size (L) = X+1.65 in ±0.08
X+42 mm ±2

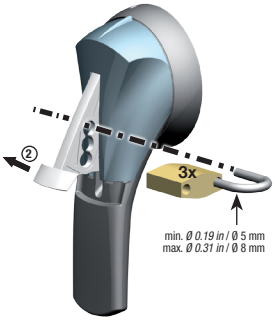
X = External enclosure dimension - Dimension extérieure du coffret. (mini: 1.18 in / 30 mm)

Padlocking on handle or product
Cadenassage sur produit ou poignée
Enclavamiento sobre el producto o sobre el mando



min: 1x Ø 0.16 in / Ø 4 mm
max: 2x Ø 0.24 in / Ø 6 mm
1x Ø 0.31 in / Ø 8 mm





min. Ø 0.19 in / Ø 5 mm
max. Ø 0.31 in / Ø 8 mm

(1 Not UL certified

Verification of the product and its installation before power ON
Vérification du produit et de son installation avant mise en service
Verificación del producto y de su instalación antes de la puesta en marcha

EN This equipment must be installed and serviced only by qualified electrical personnel.

⚠ After the installation of the product or one of its accessories, verify the operation of the product will ensure a safe comissioning and prevent malfunctions or assembly errors.

FR L'installation et l'entretien de cet appareil ne doivent être effectués que par du personnel qualifié.

⚠ Après l'installation du produit, ou d'un de ses accessoires, vérifier le fonctionnement du produit pour assurer une mise en service sécurisée et éviter des dysfonctionnements ou des erreurs de montage.

ES Este equipo debe ser instalado y operado únicamente por personal cualificado.

⚠ Después de la instalación del producto o de los accesorios, se recomienda comprobar el funcionamiento del producto para asegurar una puesta en marcha segura y evitar malos funcionamientos o errores de montaje.

1) Mechanical check

The product must be operated manually, the different positions of the product should be verified on the product and auxiliary contacts: position of the handle / shaft; position of power contacts & auxiliary contacts.

The operations to perform are: 1 closing, 1 opening, 1 closing, 1 tripping (action on the push to trip button) and 1 reset.

1) Verification mécanique

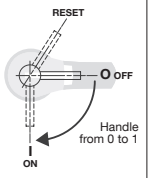
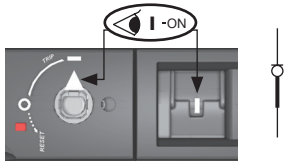
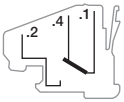
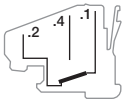
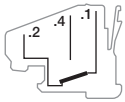
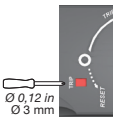
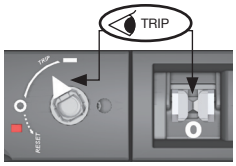
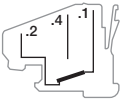
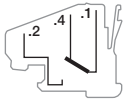
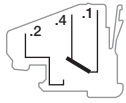
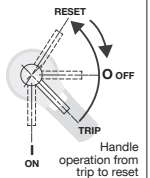
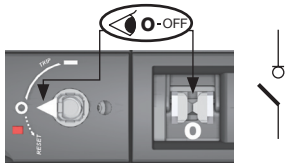
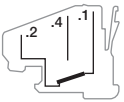
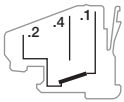
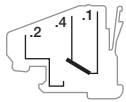
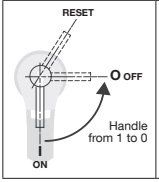
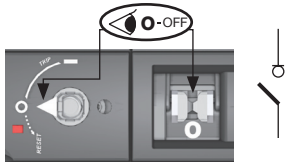
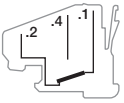
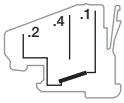
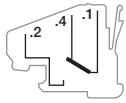
Le produit doit être manœuvré manuellement, les différentes positions du produit doivent être vérifiées sur le produit ainsi que les contacts auxiliaires : position de la poignée/axe de commande ; position des contacts de puissance & contacts auxiliaires.

Les manœuvres à effectuer sont : 1 fermeture, 1 ouverture, 1 fermeture, 1 déclenchement (action sur le bouton «push to trip») et 1 réarmement (reset).

1) Verificación mecánica

Se necesita accionar el producto manualmente y comprobar las posiciones del producto y de los contactos auxiliares: posición del mando/eje prolongado; posición de los contactos de potencia & contactos auxiliares.

Se deben realizar las siguientes maniobras: 1 cierre, 1 apertura, 1 cierre, 1 disparo (acción en el butón 'push to trip') y 1 reseteo.

Action to be performed Action à effectuer Acción a realizar	Final state of the product Etat final du produit Estado final del producto	State auxiliary contact PRE (Pre-break)	State auxiliary contact TRIP (Trip position)	State auxiliary contact POS (contact ON position)	Padlock feature on the product
					NO
					NO
					Possible
					Possible

2) Electrical check

In addition to the mechanical check, electrical operation of the product should be performed by testing the tripping function using the coil (supplied by the correct voltage).

Shunt trip coil must not be permanently powered, Max supply = 2 sec.

2) Vérification électrique

En complément des vérifications mécaniques, le fonctionnement électrique du produit doit être vérifié, en testant le déclenchement à l'aide de la bobine de déclenchement (l'alimenter par la tension adéquate).

La bobine de déclenchement à émission ne doit pas être alimentée en permanence, Max = 2 sec.

2) Verificación eléctrica

Además de las verificaciones mecánicas, también se debe comprobar el funcionamiento eléctrico del producto, accionando la bobina de disparo (con la adecuada tensión).

No se debe alimentar continuamente la bobina de emisión (Max = 2 sec.)

3) Periodic check

During installation operation or after a long period of shutdown, maintenance is recommended and consist in mechanical and electrical check as described above (recommended frequence for maintenance: 1 times per year).

3) Vérification périodique

En cours d'exploitation et selon les règles en vigueur ou après un arrêt prolongé ou un défaut, il est recommandé de faire les vérifications ci-dessus (recommandé 1 fois par an).

3) Verificación periódica

Cuando el producto está funcionando y según las reglas vigentes o después de un paro prolongado o de un defecto, se recomienda realizar las verificaciones mencionadas más arriba (1 vez cada año).

Recto-verso / papier blanc offset 80g/m² / noir et blanc / format ouvert : 210x297mm / format plié : 210x148,5mm. Reliure : piqûre à cheval.
Subject to change without notice.
CORPORATE HQ CONTACT: SOCOMEC SAS, 1-4 RUE DE WESTHOUSE, 67235 BENFELD, FRANCE

INOSYS LBS

带有跳闸功能的PV/DC开关 – 100至800 A
IEC：84Pxxxxx / IEC & UL: 85Pxxxxx

❶	IEC	160 A / 250 A / 315 A	
	UL	100 A / 200 A / 250 A	
❷	IEC	400 A / 630 A / 800 A	
	UL	275 A / 325 A / 400 A / 500 A	

⚠ 危险

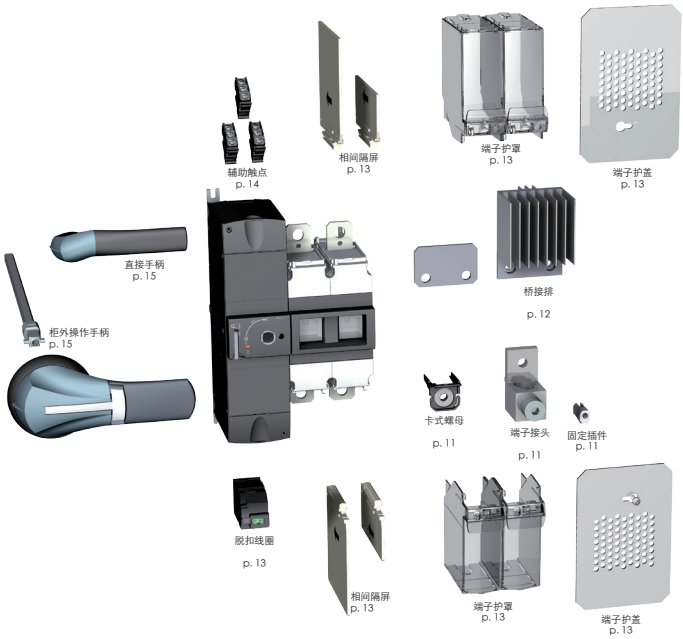
ZH 本设备必须由具备专业资质的人员进行安装与检修。

⚠ 危险电压

- 在设备上或设备中进行操作之前，必须关闭供应此设备的所有电源。
- 应始终使用适当的电压检测装置确认电源已关断。
- 开启本设备的电源之前，装回所有的设备、机门和护盖。
- 电缆和带电零件之间应保持足够的电气间距。
- 除非另有说明，使用所提供的螺钉和螺母。
- 作为低电压绝缘安全的一般规则，辅助触点位置不是安全装置。当用来报告电源触点的位置时，必须采取附加措施，例如挂锁或检查设备是否被证实死亡。

不遵守这些说明将导致死亡或重伤。

开关和附件

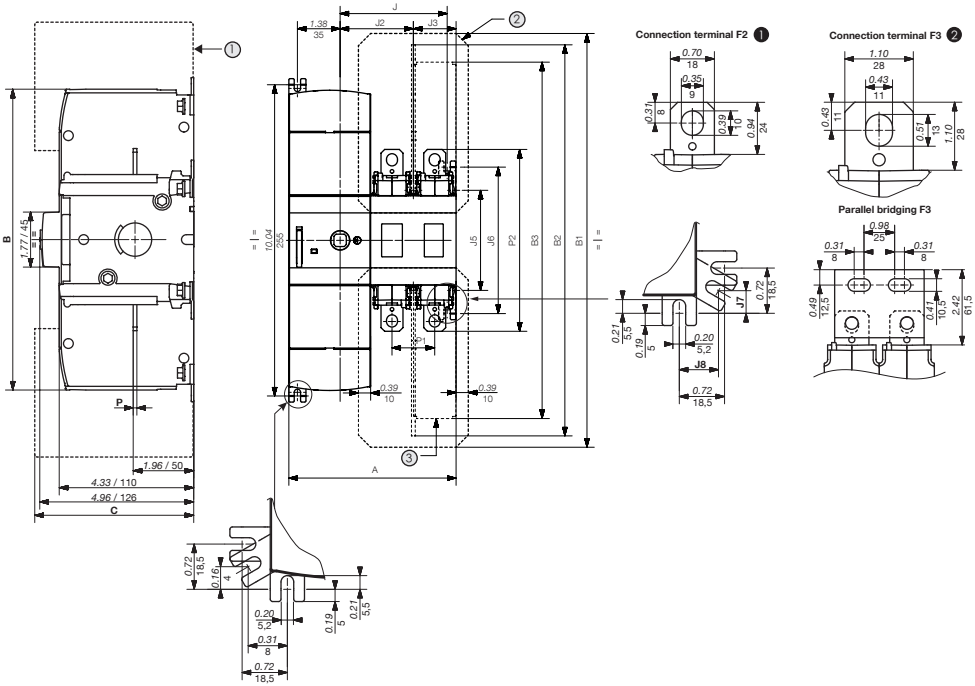


双重单位制　in/mm

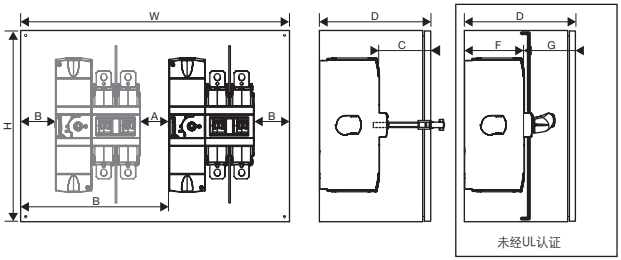
① 相间隔屏
② 端子护屏
③ 端子护罩

		A
		2 P
❶	in	5,39
	mm	137
❷	in	6,18
	mm	157

		B	B1	B2			B3	C		J2	J3	J4	J5	J6	J7	J8	P	P1	P2
				IEC短	IEC长	UL		IEC	UL										
❶	in	9,69	13,35	7,85	12,61	10,31	11,64	4,33	4,33	2,36	1,38	3,03	3,23	4,72	0,39	0,58	0,12	1,38	5,87
	mm	246	339	199	320	262	296	110	110	60	35	77	82	120	10	15	3	35	149
❷	in	9,69	16,28	9,35	14,11	15,50	14,12	4,33	5,31	2,76	1,77	3,43	4,72	6,22	0,16	0,33	0,20	1,77	7,87
	mm	246	414	237	358	394	359	110	135	70	45	87	120	158	4	8	5	45	200



最小机壳尺寸UL98B，IEC

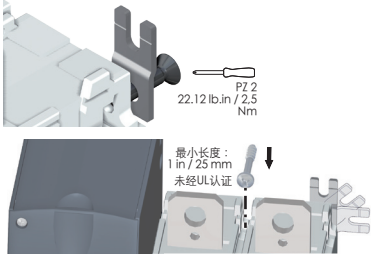


最小UL机壳尺寸		❶	❷			
		100-250A	275A	325A	400A	500A
1P 高 x 宽 x 深	in	24x16x6	40x24x8	36x24x8	36x24x8	36x24x8
	mm	609x406x152	1016x609x203	914x609x203	914x609x203	914x609x203
2P 高 x 宽 x 深	in	24x16x6	36x24x8	36x24x8	36x24x8	36x24x8
	mm	609x406x152	914x609x203	914x609x203	914x609x203	914x609x203

机壳外部尺寸

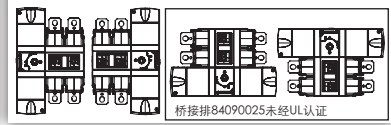
间距	❶		❷	
	in	mm	in	mm
A最小	2,00	50,8	3,00	76,2
B最小	1,00	25,4	1,50	38,1
C最小	0,87	22	1,08	27,5
F最小	4,33	110	5,41	137,5
G最小	0	0	0,5	12,7

安装



安装方向

可使用所有的安装方向。
可能需要降容 - 请联系我们。



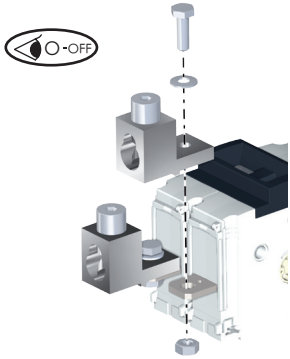
使用端子接头连接（UL应用）

⚠ 检查电气间距是否正确。
❶ 对于高达1500V的应用，在相邻电源端子接头之间保持至少1”的间距，以及在任何带电部件和设备机壳或安装板之间保持至少1.06”的间距。
❷ 对于高达1500V的应用，在相邻电源端子接头之间保持至少1”的间距，以及在任何带电部件和设备机壳或安装板之间保持至少0.83”的间距。

	标记	端子接头产品编号 (1)	每个产品编号包含的数量	每个端子接头的开口	尺寸 (AWG)		压力螺钉力矩			螺栓力矩			Y	
					最小	最大	lb.in	Nm	尺寸	lb.in	Nm	尺寸	in	mm
❶	IHI 2S2-0-TP_STK-34-49-HEX	39542023 (2)	2	2	Cu:14，Al:12 8 6 3	10 8 4 2/0	35 40 45 50	4 4,5 5,1 5,6	◯ 3/16	160	18	⬢ 13	1,29	32,5
		39543023 (2)	3											
		39544023 (2)	4											
❷	CMC LA630-R	39542040 (2)	2	1 2	4 1/0	600 KCMIL 250 KCMIL	550	62,1	◯ 1/2	310	35	⬢ 15 17	1,79	45,7
		39543040 (2)	3											
		39544040 (2)	4											
	CMC PV2-600	39542060 (2)	2	2	2	600 KCMIL	375	42,4	◯ 3/8				2,74	69,7
		39543060 (2)	3											
		39544060 (2)	4											

(1) 必须在产品上安装相间隔屏。
(2) 卡式螺母84996xxx是强制性（请参阅 第11页的“安装卡式螺母”.

不带附件



建议的电缆或铜排连接（IEC应用）

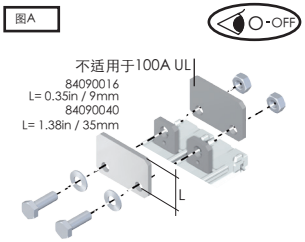
⚠ 检查电气间距是否正确。
❶ 对于高达1500V的应用，在相邻电源端子接头之间保持至少1”的间距，以及在任何带电部件和设备机壳或安装板之间保持至少1.06”的间距。
❷ 对于高达1500V的应用，在相邻电源端子接头之间保持至少1”的间距，以及在任何带电部件和设备机壳或安装板之间保持至少0.83”的间距。

	Ie	额定铜电缆横截面	额定铝电缆横截面	最大母线宽度		拧紧力矩	尺寸
				非隔离铜排	带相间隔屏的隔离铜排		
❶	160A (1)	70mm²	120mm²	⩽ 20mm	⩽ 25mm	159.31 lb.in 18 Nm	⬢ 13
	250A (1)	120mm²	185mm²				
	315A (1)	185mm²	2 x 120mm²				
❷	400A (1)	240mm²	2 x 150mm²	⩽ 25mm	⩽ 32mm	309.77 lb.in 35 Nm	⬢ 15-17
	630A (1)	2 x 185mm²	2 x 300mm²				
	800A (1)	2 x 240mm²	3 x 240mm²				

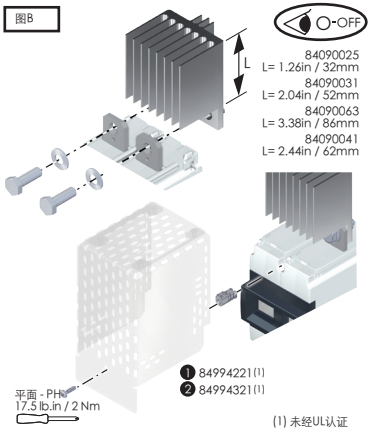
(1) 必须在产品上安装长相间隔屏8499221X 。

安装桥接排

图A



图B



(1) 未经UL认证

接地网络

				1个PV回路 可达1500 VDC 2P		拧紧力矩	尺寸	
				产品编号	图			
	1	UL	100A / 200A	84090016	A	159.31 lb.in 18 Nm	⬢	13
			250A					
	2	UL	275A	84090040	A	309.77 lb.in 35 Nm	⬢	15-17
			325A					
			400A					
			500A	84090041 84090063	B			

(1) 未经UL认证

串联极

⚠ 强制性

为了易于理解，仅显示一种类型的连接。由于所有的极是独立和非极化的，因此，可将相邻或非相邻的极和产品的同侧或对侧的极串联。根据给定的技术特性串联最小极数，必须如下图所示。电线弯曲的空间以及间距必须根据NEC或相关的安装标准。为此，必须增加机壳尺寸。

对于非溯高美索克曼提供的桥接排和串行连接，必须检查热效应。

对于多回路产品，① 符号代表每个回路的接线。

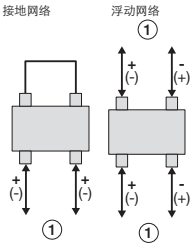
还可将2个或更多独立的回路，一起连接到逆变器侧。

⚠ 对于多极开关（未接地系统或多回路开关），必须在通电前安装相间隔屏。

1个PV回路 - 可达1500 VDC

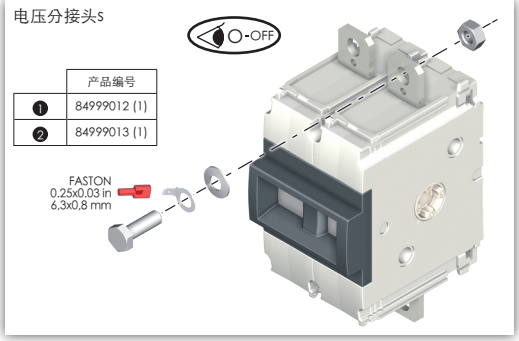
① 电路1

接地系统：在一些安装标准中，可能不允许此配置。对于未接地的系统，请参阅NEC 690.35（NEC2008、NEC2011、NEC2014、NFPA70）。



电压分接头S

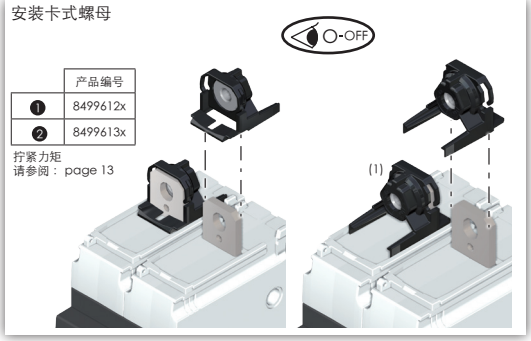
	产品编号
❶	84999012 (1)
❷	84999013 (1)



安装卡式螺母

	产品编号
❶	8499612x
❷	8499613x

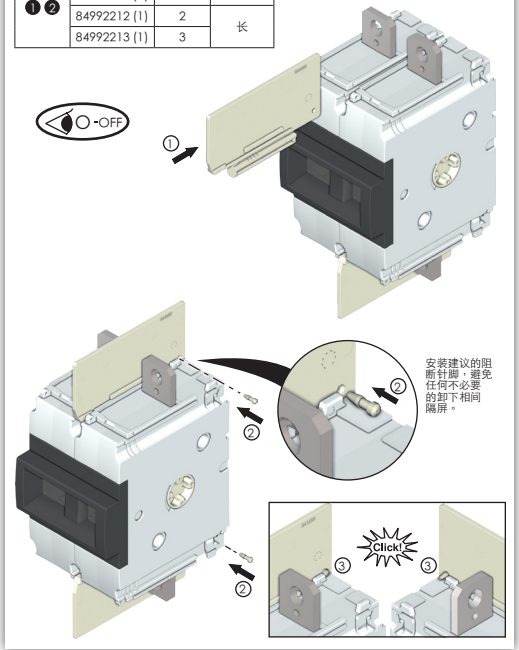
拧紧力矩
请参阅： page 13



安装相间隔屏

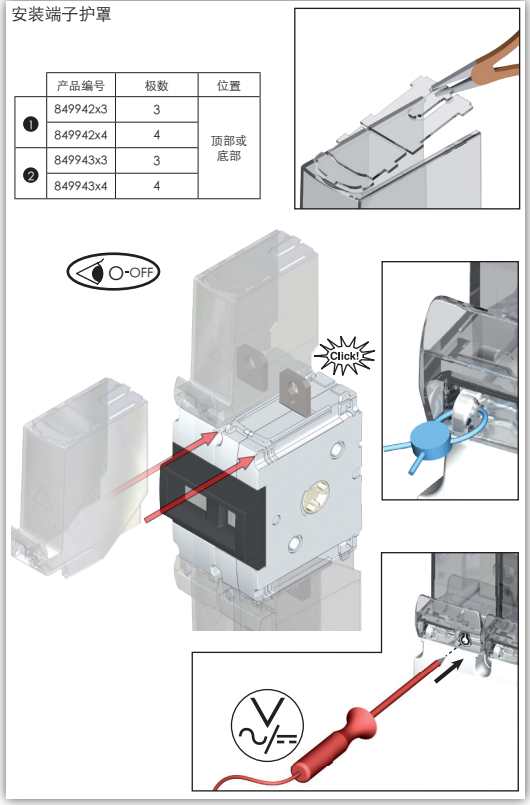
对于未提供相间隔屏的产品，产品编号为：

	产品编号	一套	尺寸
❶❷	84992202 (1)	2	短
	84992203 (1)	3	
	84992212 (1)	2	长
	84992213 (1)	3	



安装端子护罩

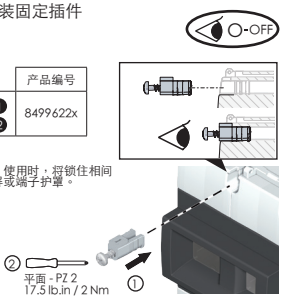
	产品编号	极数	位置
❶	849942x3	3	顶部或底部
	849942x4	4	
❷	849943x3	3	
	849943x4	4	



安装固定插件

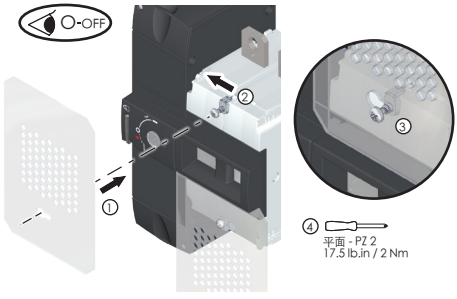
	产品编号
❶	8499622x
❷	

注：使用时，将锁住相间隔屏或端子护罩。



安装端子护盖

	产品编号	极数	位置
❶	84993222	2P	顶部和底部
❷	84993322 (1)	2P	
	84993722	2P	

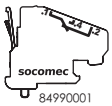


(1) 未经UL认证

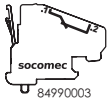
安装辅助触点

	产品编号	类型	最小电流(A)	I_{th} (A)	工作电流 I_e (A)				
					24 VDC	48 VDC	230 VDC	440 VDC	690 VDC
					DC-14	DC-14	AC-15	AC-15	AC-15
❶ ❷	84990001	NO/NC标准	12.5 mA / 24 V	10	1	0,2	4	4	-
❶ ❷	84990002	NO/NC低电平	1 mA / 4 V	10	1	0,2	2	1	-
❶ ❷	84990003	NC 600V	10 mA / 24 V	10	1	0,2	4	4	0,5

并排放置的两个辅助触点的线路端子必须是相同的极性。最大周围温度：75 ° C（仅UL）。



84990001
84990002



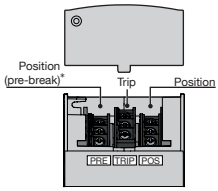
84990003

铜缆横截面 - 75 ° C或以上
Ith = 10A

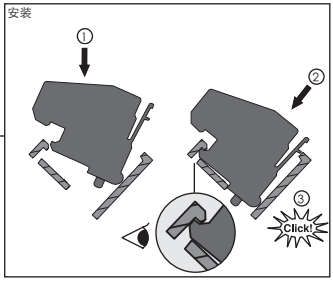
柔性，带电缆端件
（仅IEC）
最小 1x 0,5 mm²
最大 1x 2,5 mm² / 2x 1,5 mm²

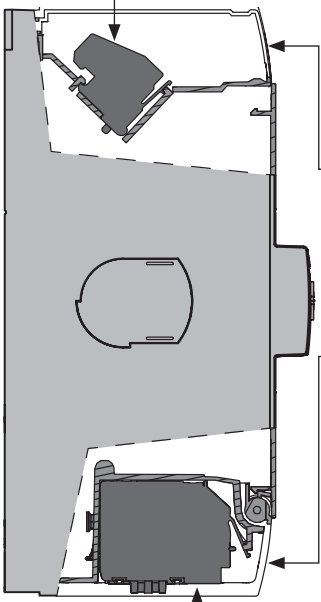
绞合/实芯 (IEC / UL)
AWG 最小 1x 20 / 2x 16
AWG 最大 1x 14 / 2x 14
最小 1x 0,5 mm² / 2x 1,5 mm²
最大 1x 2,5 mm² / 2x 2,5 mm²
0.31in / 8mm

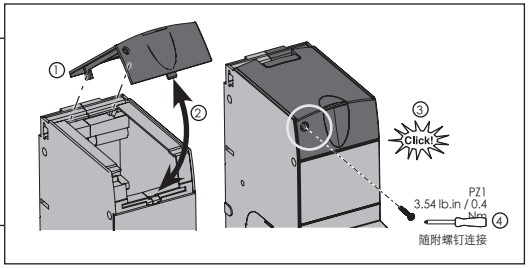
平面5 - PZ 2 - 7.08 lb.in / 0,8 Nm

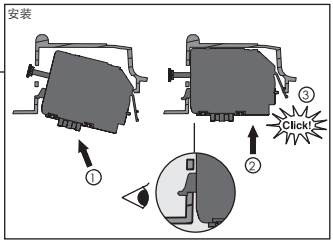


* 预断开仅适用于手动操作









安装脱扣线圈

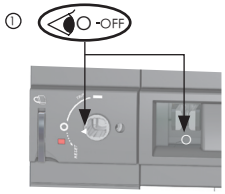
	产品编号	
❶ ❷	84997xxx	分励脱扣线圈
❶ ❷	84998xxx	欠压脱扣线圈

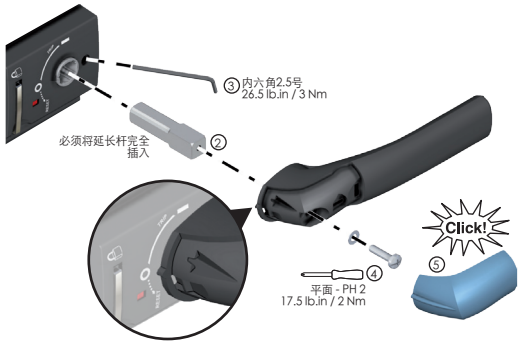
铜缆横截面
非极化线圈，可进行所有的接线。
柔性，带电缆端件 （仅IEC）
最小0.25 mm²
最大1.5 mm²
绞合/实芯 (IEC / UL)
AWG 最小 26
AWG 最大 14
最小0,14 mm² - 最大2,5 mm²
0.31in / 8mm

⚠ 分励脱扣线圈必须不能永久接通电源，最大供电时间 = 2sec / min。
避免永久供电的例子包括将辅助触点与分励脱扣线圈串联，或从载荷侧获取线圈电源电压，或电子限制电源电压/电流的持续时间。
对于额定高于70VDC的直流分励脱扣线圈，应使用柜外继电器来断开线圈。

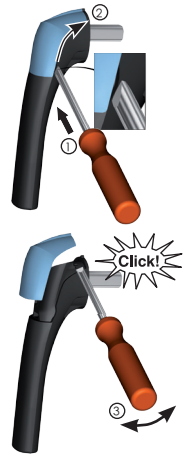
安装直接操作手柄

	产品编号	颜色
❶	849950x2 (1)	黑色
❷	849950x3 (1)	红色



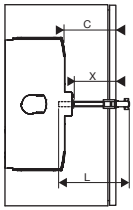


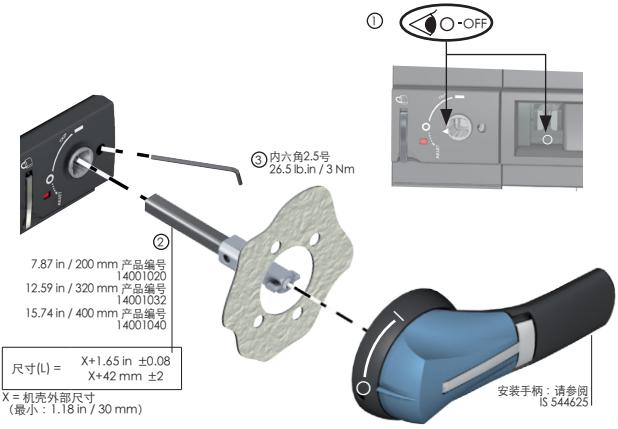
拆除护盖



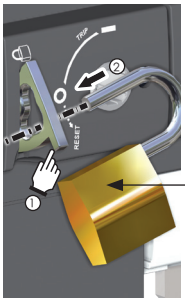
柜外操作手柄

	产品编号	颜色
	74212118 (1)	黑色
	74A12118 (1)	
	742F2118	
	74AF2118	
❶	742G2118	红色
❷	74AG2118	
	742D2118	黑色
	74AD2118	
	742E2118	红色
	74AE2118	

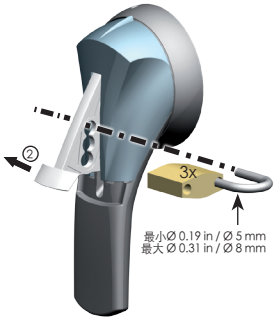




将挂锁安装在手柄或产品上



最小：1x Ø 0.16 in / Ø 4 mm
最大：2x Ø 0.24 in / Ø 6 mm
1x Ø 0.31 in / Ø 8 mm



(1 未经UL认证

接通电源前，验证产品及其安装。

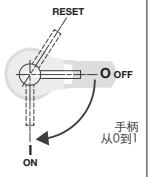
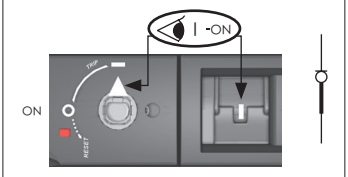
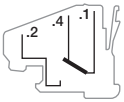
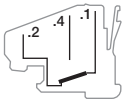
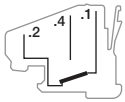
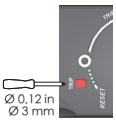
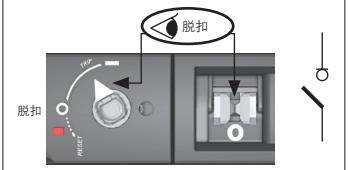
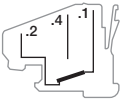
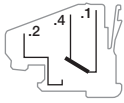
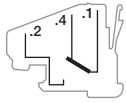
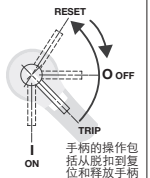
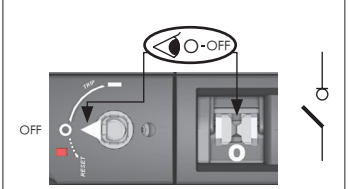
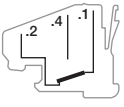
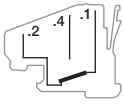
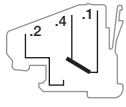
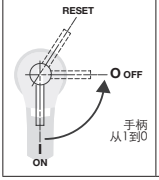
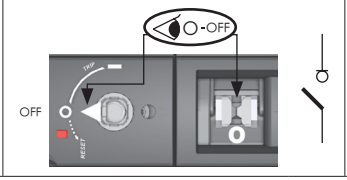
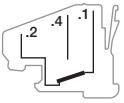
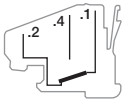
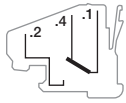
ZH 本设备必须由具备专业资质的人员进行安装与检修。

⚠ 安装产品或其附件之一后，验证产品的操作将可确保安全调试，以及防止故障或组装错误。

1) 机械检查

必须手动操作产品，应验证产品和辅助触点上产品的不同位置：手柄/延长杆的位置；电源触点和辅助触点的位置。

执行的操作包括：闭合1次，打开1次，闭合1次，脱扣1次（按脱扣按钮的操作）和 复位1次。

需执行的操作	产品的最终状态	辅助触点状态			产品上的挂锁功能
		PRE（预断开）	TRIP（脱扣位置）	POS（触点打开位置）	
					常开
按脱扣按钮的操作 					常开
					可能
					可能

2) 电气检查

除了机械检查外，应通过使用线圈（由正确电压供电）测试脱扣功能，来执行产品的电气操作。

分励脱扣线圈必须不能永久接通电源，最大供电时间 = 2 sec。

3) 定期检查

执行安装操作过程中或长时间关机后，建议进行维护并包括上述机械和电气检查（建议维护频率：每年1次）。