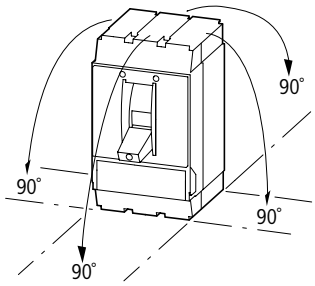
Montageanweisung
Installation Instructions
Notice d'installation
Istruzioni per il montaggio
Instrucciones de montaje
Инструкция по монтажу
安装说明

MOELLER

ALPHA LOVAG

NZMB(C)(N)(H)(L)2(-4)-A(M)(S)...
NZMN(H)(L)2(-4)-VE(ME)...
(P)N2(-4)-...
NZMB(C)(N)(H)(L)2-A(VE)...-AP
(P)N2-...-AP



NZMB(N)(H)(L)2-A(AF)...(-BT)-NA
NZMB(N)(H)(L)2-S...(-BT)-CNA
NZMN(H)(L)2-VE...(-BT)-NA
NZMN(H)(L)2-VEF...(-BT)-NA
NZMN(H)(L)2-SE...(-BT)-CNA
N(S)2-...(-BT)-NA

Lebensgefahr durch elektrischen Strom!
Nur Elektrofachkräfte und elektrotechnisch unterwiesene Personen dürfen die im Folgenden beschriebenen Arbeiten ausführen.

Electric current! Danger to life!
Only skilled or instructed persons may carry out the following operations.

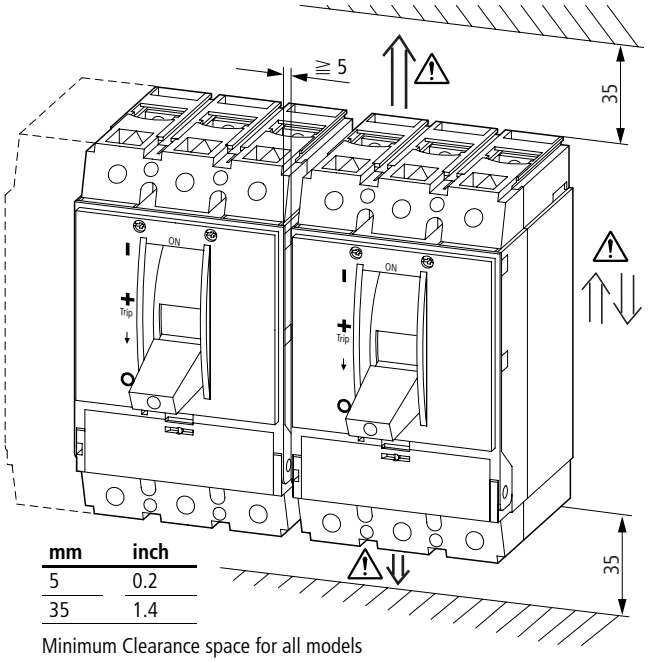
Tension électrique dangereuse !
Seules les personnes qualifiées et averties doivent exécuter les travaux ci-après.

Tensione elettrica: Pericolo di morte!
Solo persone abilitate e qualificate possono eseguire le operazioni di seguito riportate.

¡Corriente eléctrica! ¡Peligro de muerte!
El trabajo a continuación descrito debe ser realizado por personas cualificadas y advertidas.

Электрический ток! Опасно для жизни!
Только специалисты или проинструктированные лица могут выполнять следующие операции.

触电危险！
只允许专业人员和受过专业训练的人员进行下列工作。



mm	inch
5	0.2
35	1.4

Minimum Clearance space for all models

Ausblasrichtung
im Kurzschlussfall

Blowout direction in case of a short-circuit

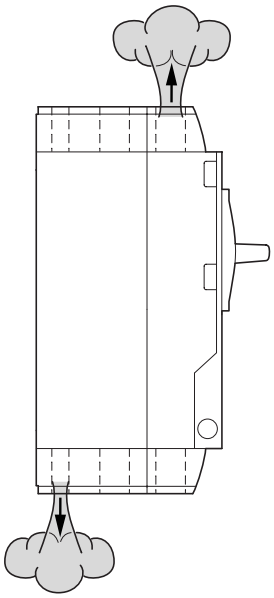
Dégagement gazeux en cas de court-circuit.

Direzione di estinzione in caso di corto circuito

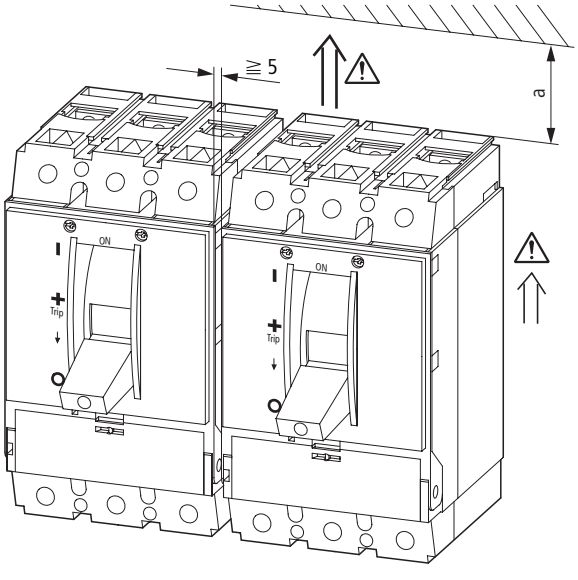
Dirección de salida de los gases en caso de cortocircuito

Направление продувки в случае короткого замыкания

短路时的排空方向



NZMB(C)2-A... ≦ 250 A
(P)N2(-4)-...



	a mm
NZMB(C)2-A...	60
(P)N2(-4)-...	35

Ausblasrichtung
im Kurzschlussfall

Blowout direction in case of a short-circuit

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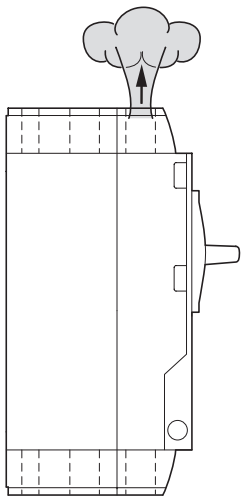
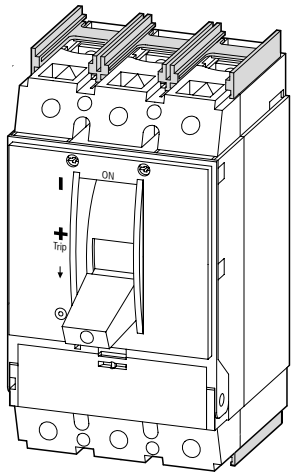


-NA
-CNA

(UL/CSA models)

Above 480 V, use of insulating plate Cat. No. IPXXX, to be mounted under the breaker or switch, is required. Refer to last page of instructions.



Vorsicht!
Für die Durchführung der beschriebenen Arbeiten kann das Entfernen oder der Austausch von Teilen notwendig sein.
Bitte alle Installations-Anweisungen beachten, um die erforderlichen Luft- und Kriechstrecken nach dem Zusammenbau zu gewährleisten.

Caution!
The removal or exchange of parts during mounting may become necessary.
Refer to installation instructions for proper assembly and to maintain electrical clearances.

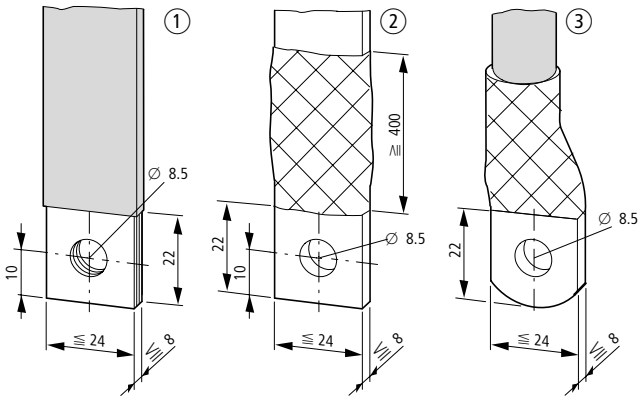
Attention !
L'enlèvement où l'échange de certaines pièces pendant le montage est parfois nécessaire.
Consultez l'instruction d'assemblage pour assurer une installation conforme aux normes.

Attenzione!
Per l'esecuzione degli interventi descritti potrebbe essere necessaria la rimozione o sostituzione di alcuni pezzi.
Attenersi alle istruzioni d'installazione per garantire dopo l'assemblaggio le vie di dispersione necessarie.

Atención!
Con el fin de llevar a cabo los trabajos descritos, puede ser necesario eliminar o cambiar alguna pieza.
Le rogamos tenga en cuenta todas las instrucciones de instalación para así garantizar las líneas de fuga y efluvio necesarias tras el montaje.

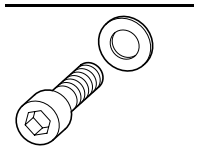
Осторожно!
При проведении описанных процедур может возникнуть необходимость демонтировать или заменить детали.
Для обеспечения надлежащих зазоров и вывода тока утечки, соблюдайте все инструкции по монтажу.

小心！ 执行所描述的操作时可能需要拆除或更换零部件。
请遵守所有相关的安装说明，
以确保在组装后能获得需要的空间距离或爬电距离。

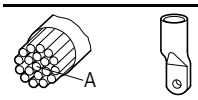


①	②	③
≧ 2 × 9 × 0.8 mm	≧ 16 × 5 mm	1 × 4 – 185 mm²
≦ 10 × 16 × 0.8 mm	≦ 20 × 5 mm	2 × 4 – 70 mm²
≦ 6 × 24 × 0.5 mm		1 × AWG12 – 1 × AWG3/0

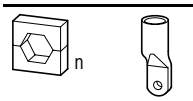
UL/CSA = Cu only, Ampacity per 75° C Table.



3pol	M8 × 22
4pol	



A = 95 mm²	KS95-NZM7
A = 120 mm²	KS120-NZM7
A = 150 mm²	KS150-NZM7
A = 185 mm²	NZM2-XKS185



n

2	KS95-NZM7
2	KS120-NZM7
2	KS150-NZM7
2	NZM2-XKS185

n = Anzahl der Pressungen
n = Number of crimps
n = Nombre de sertissages
n = Numero delle crimpature
n = Número de compresiones
n = Число прессований
n = 压制数量

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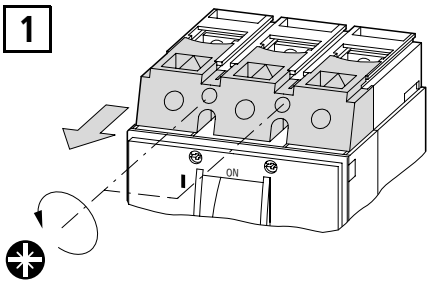
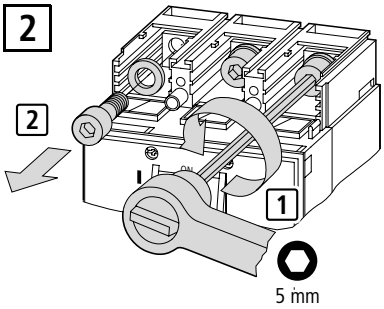
1



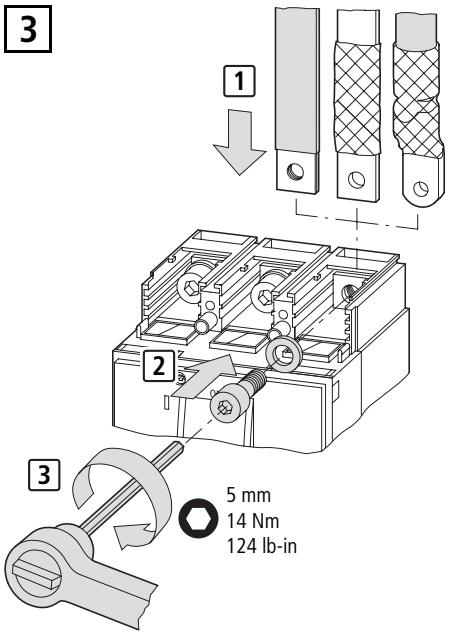
Z 2

2

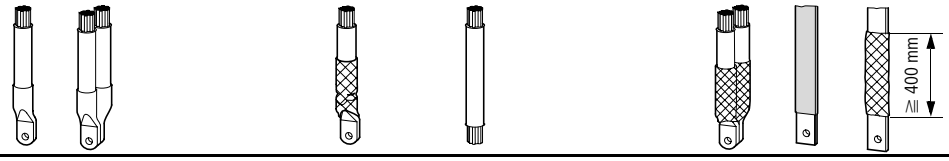
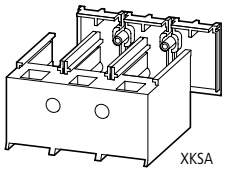
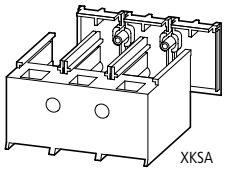
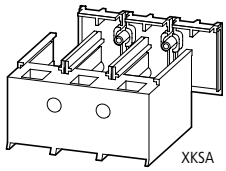
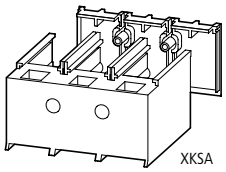
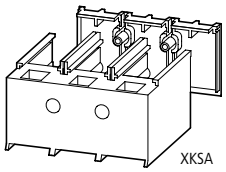
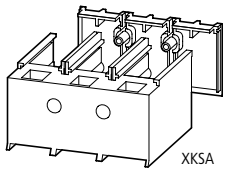


UL/CSA models:
Follow diagrams below when making connections using XKS screw terminations for compression crimp lugs:
– Always use terminal cover XKSA when making connections with bare bus or non-insulated crimp lugs, or when two wires per phase are connected.
To mount terminal cover XKSA, refer to instruction sheet AWA1230-2047.

3

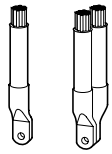
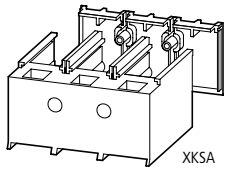


~~NZMB(C)2-A... ≦ 250A~~
~~(P)N2(-4)-...~~

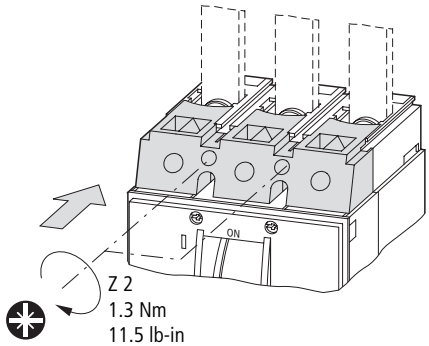
			
≦ 415 V	✓ + 	✓	✓
≦ 525 V	✓ + 	✓	✓ + 
> 525 V	✓ + 	✓ + 	✓ + 

✓ Kombinationsmöglichkeiten – Combination options – Combinaisons possibles – Combinazioni possibili – Combinaciones posibles – Комбинационные возможности – 组合方法

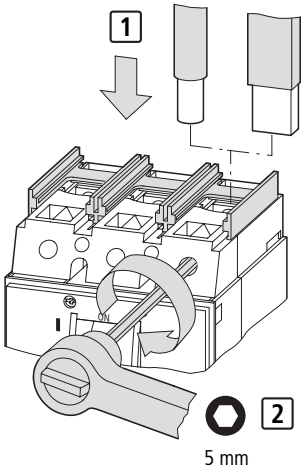
NZMB(C)2-A... ≦ 250 A
(P)N2(-4)-...

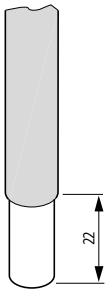
	
✓ + 	

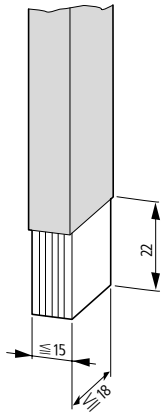
4



NZMB(N)(H)(L)2-A(AF)...(-BT)-NA
NZMB(N)(H)(L)2-S...(-BT)-CNA
NZMN(H)(L)2-VE...(-BT)-NA
NZMN(H)(L)2-VEF...(-BT)-NA
NZMN(H)(L)2-SE...(-BT)-CNA
N(S)2-...(-BT)-NA







Nm		lb-in	
14	> 10 mm², > AWG 8	123	> AWG 8
5	≦ 10 mm², ≦ AWG 8	44	≦ AWG 8

1 × 4 – 185 mm²	≧ 2 × 9 × 0.8 mm
2 × 4 – 70 mm²	
1 × AWG 12 – 350 kcmil	

UL/CSA = Cu only, Ampacity per 75° C Table.

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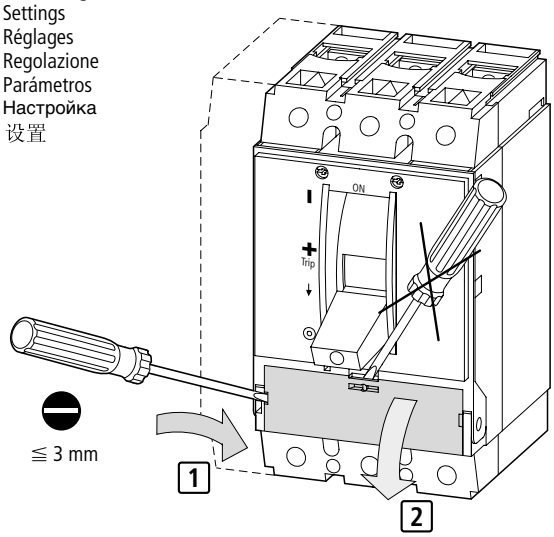
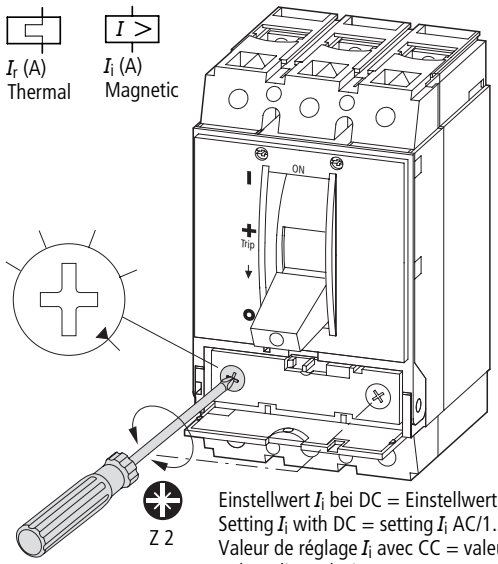
1 NZMB(C)(N)(H)(L)2(-4)-A(M)(S)...(-AP)
NZM...2-A(AF)...-NA
NZM...2-S...-CNA

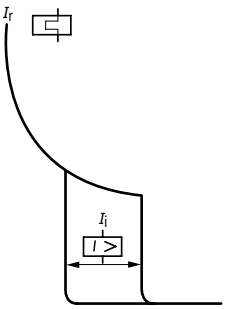
Einstellung
Settings
Réglages
Regolazione
Parámetros
Настройка
设置



2 NZMB(C)(N)(H)(L)2(-4)-A(M)(S)...(-AP)
NZM...2-A(AF)...-NA
NZM...2-S...-CNA

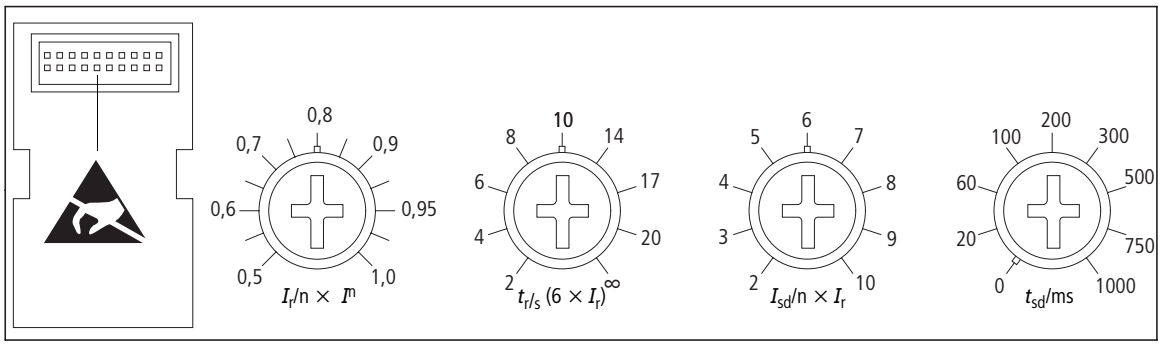


Note: On certain models with UL/CSA labeling the thermal trip setting is fixed and only the magnetic trip (instantaneous) setting is adjustable.

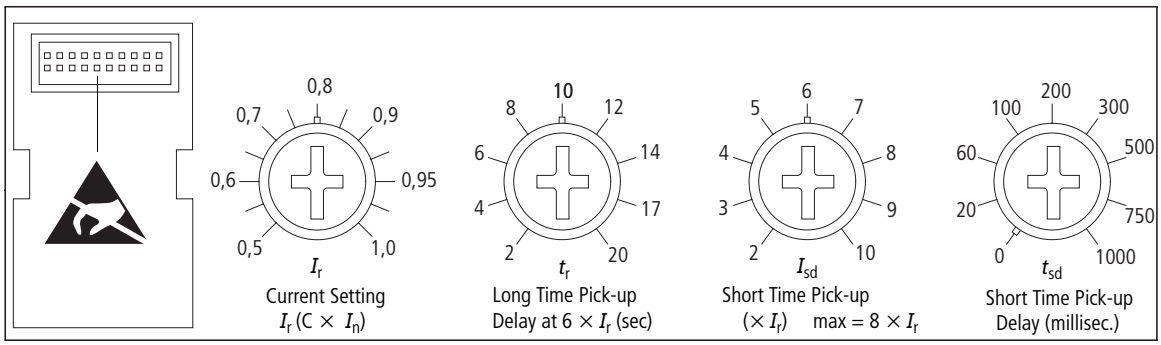


Einstellwert I_i bei DC = Einstellwert I_i AC/1,35
Setting I_i with DC = setting I_i AC/1.35
Valeur de réglage I_i avec CC = valeur de réglage I_i CA/1,35
Valore di regolazione I_i con DC = valore di regolazione I_i AC/1,35
Valor de respuesta I_i con CC = valore de respuesta I_i CA/1,35
Значение I_i при постоянном токе = I_i при переменном токе /1.35
DC 的设置值 I_i = AC/1.45 的设置值 I_i

NZMN(H)(L)2(-4)-VE(ME)...(-AP)



-NA, -CNA UL/CSA Electronic Trip Circuit Breakers



NZM2-VE...-NA	×	×	×	×
NZM2-VEF...-NA	–	×	×	×
NZM2-SE...-CNA	–	–	×	–

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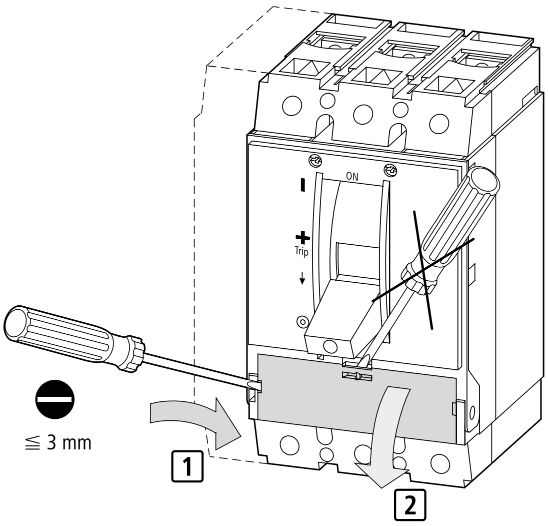
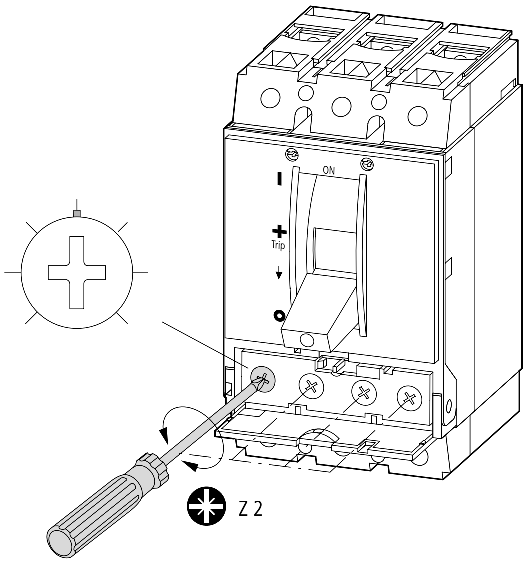
1

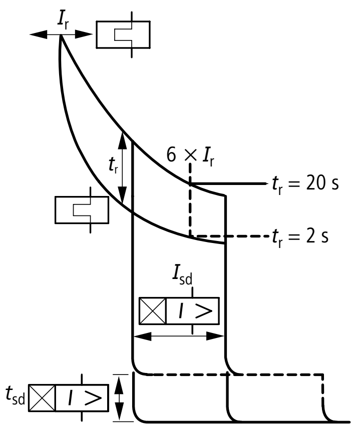
Einstellung
Settings
Réglages
Regolazione
Parámetros
Настройка
设置



2 I_r [A], t_r [s], I_{sd} [A], t_{sd} [ms]

Electronic Trip Circuit Breaker Adjustable settings





(I_n = Max. current rating)

I_r = Adjustable current setting (0.5 – 1.0 × I_n) for Long Time Pick-up.

t_r = Adjustable Long Time Pick-up Delay (2 – 20 sec.) factory set at 10 seconds.

I_{sd} = Adjustable Short Time Pick-up (2 – 10 × I_r) factory set at 6 × I_r.

t_{sd} = Short Time Pick-up Delay (0 – 1000 ms) factory set at 0 ms.

Note: Instantaneous Pick-up fixed at 12 × I_n.

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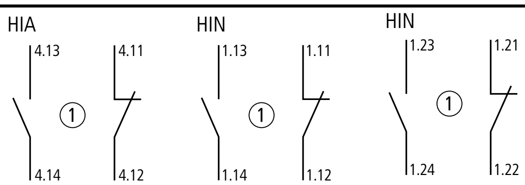
M22-K10
M22-K01
M22-CK10
M22-CK01
Auxiliary Switches



① oder – or – ou – oppure – ó – или – 或者

-NA
-CNA
(UL/CSA)

⚠ $I_{th} = I_e$

U_e (V)	I_e (A)
600 AC	10 A
250 DC	1 A

Pilot Duty Ratings:
A 600, P 300
Above 300 VAC
Same polarity

Notes on mounting and wiring Auxiliary Switches for UL/CSA labeled models:

- M22-K (10)(01) have screw terminals. M22-CK (10)(01) have clamp terminals
- Switch modules are snapped into place at the locations shown in the diagrams that follow.
- Switches will function as either „standard" or „trip/alarm" contacts depending on their mounting location.
- Location „HIN" refers to standard operation. Location „HIA" refers to „trip/alarm" operation.
- Follow the numbering and wiring scheme provided above depending on the contact location and function. (N.O. or N.C.)
- Permissible contact configuration: 1 HIA and/or 2 HIN.

⚠ **Note:**
After mounting of the M22... switch is complete, check off the appropriate box on the auxiliary switch label provided on the side of the breaker or switch.

IEC

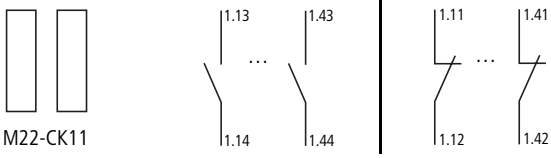
⚠ $I_{th} = I_e$

	U_e (V)	I_e (A)
AC-15	115	4
	230	4
	400	2
	500	1
DC-13	24	3
	42	1.7
	60	1.2
	110	0.8
	220	0.3

M22-CK11
M22-CK20
M22-CK02

HIA

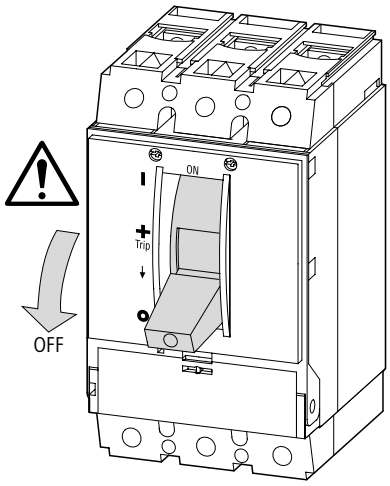
HIN



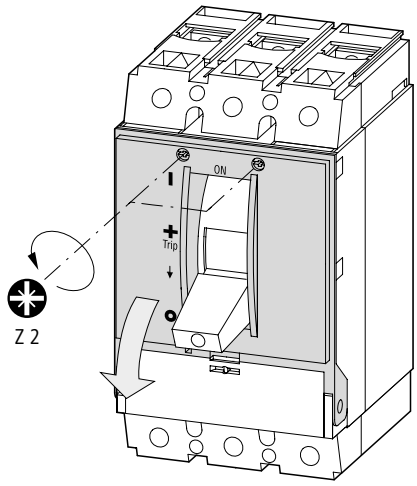
M22-CK11
①
M22-CK20
①
M22-CK02

① oder – or – ou – oppure – ó – или – 或者

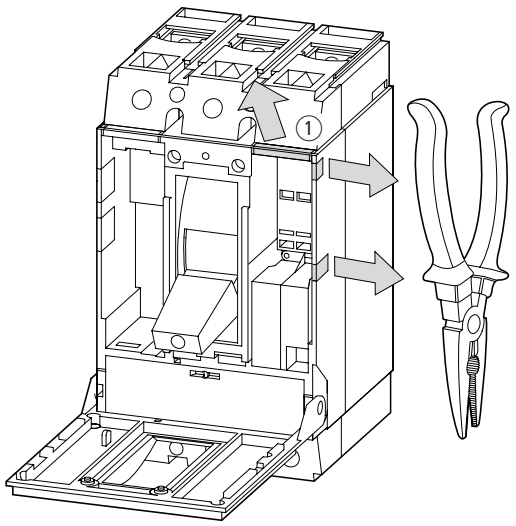
1



2

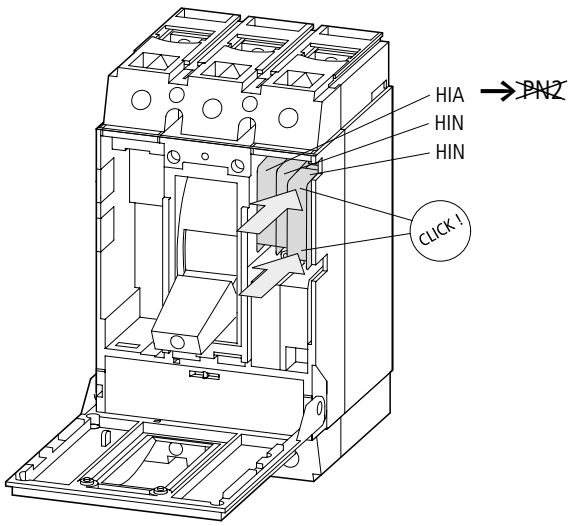


3



① oder or ou oppure ó или 或者

4



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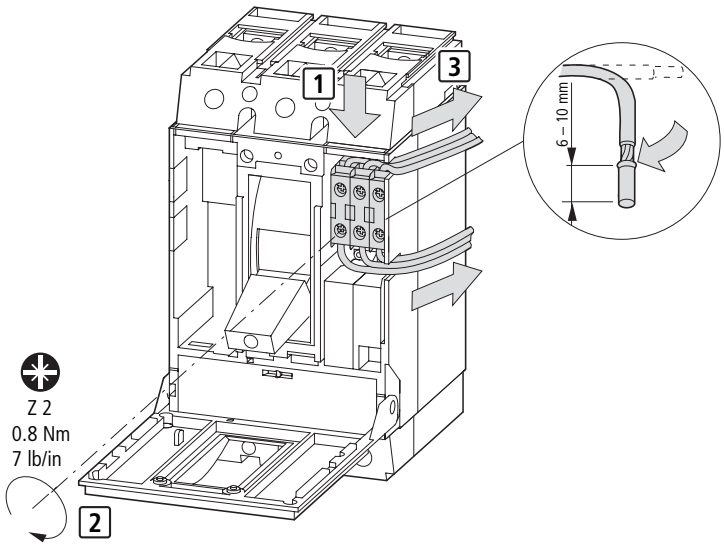
5a M22-K10, M22-K01

(Screw Terminals)

...K10: N. O. Contact

...K01: N. C. Contact

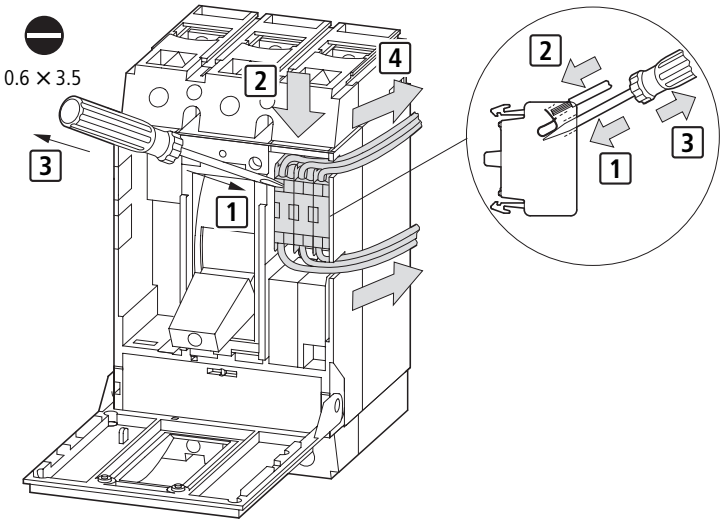
	2 × 0.75 – 2.5 mm² 2 × AWG 18 – AWG 14
UL/CSA = Cu only	



5b M22-CK10, M22-CK01

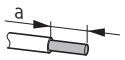
(Clamp Terminals)

	2 × 0.75 – 2.5 mm² 2 × AWG 18 – AWG 14
UL/CSA = Cu only	



5c M22-CK11, M22-CK20, M22-CK02

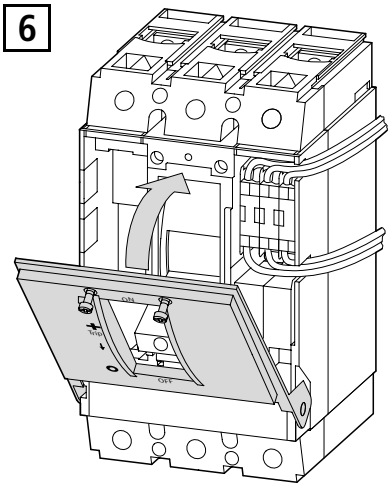
(Clamp Terminals)



a = 8 mm

	1 × 0.5 – 1.5 mm² 2 × 0.5 – 0.75 mm²

6



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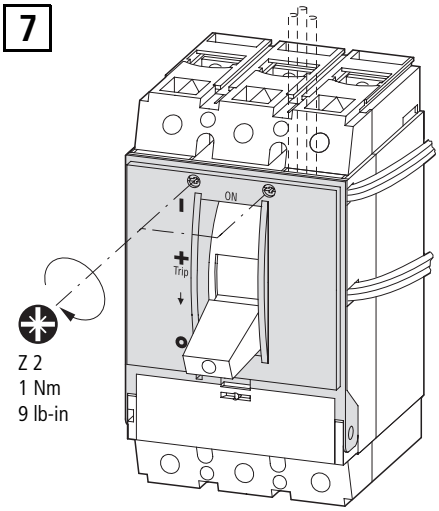

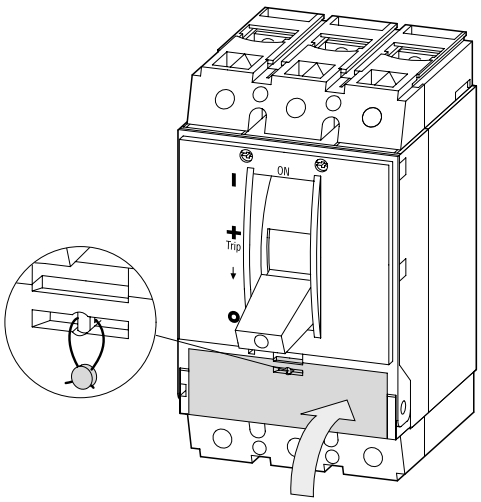

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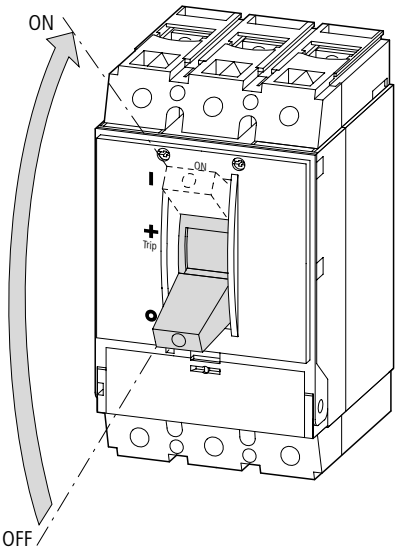
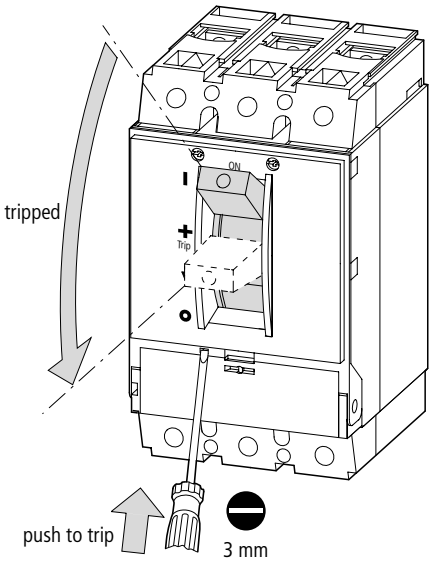
TEST 1



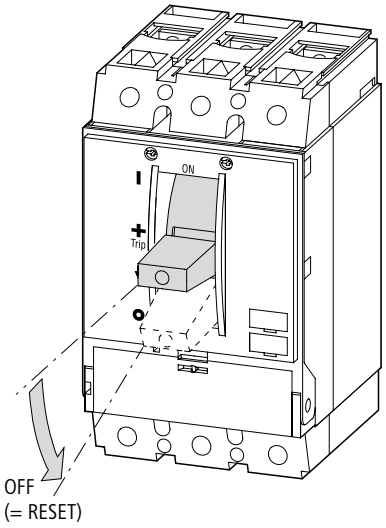
TEST 2

~~PN2-...(-AP)~~

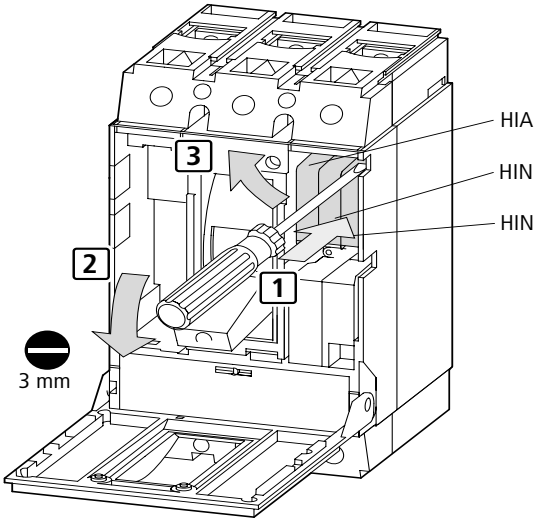


TEST 3

~~PN2-...(-AP)~~



Demontage
Dismantling
Démontage
Smontaggio
Desmontaje
Разберка
拆卸



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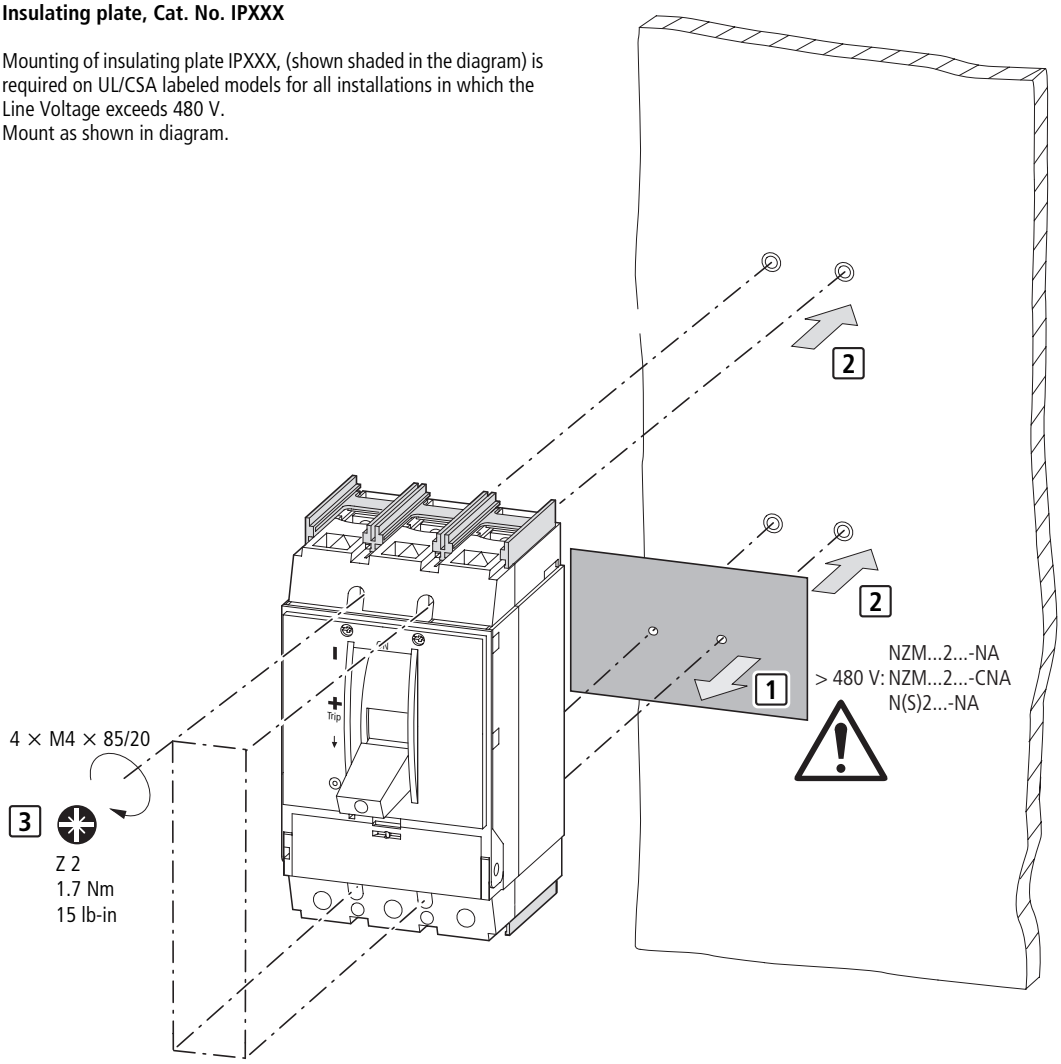
Montage
Mounting
Montaggio
Montaje
Монтаж
安装

Insulating plate, Cat. No. IPXXX

Mounting of insulating plate IPXXX, (shown shaded in the diagram) is required on UL/CSA labeled models for all installations in which the Line Voltage exceeds 480 V.
Mount as shown in diagram.



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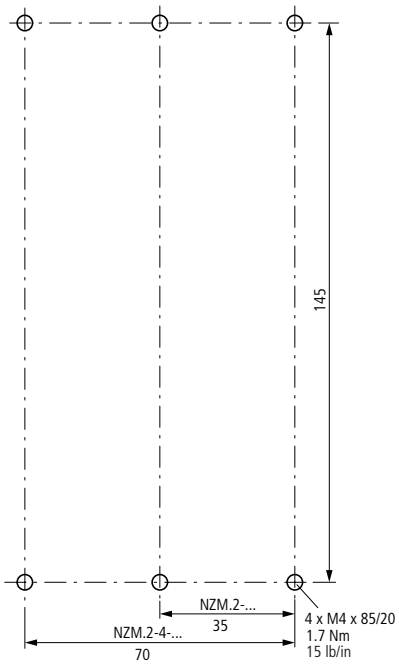

Wiring terminations circuit breaker type NZM...2...-NA (CNA)
Wiring terminations molded case switch type N(S)2...-NA

	Connector Type	Wire size	Wire 75° C	Max. A-Rating	Tightening-Torque
	NZM2-XKC	1 × AWG 12 – 350 kcmil	Cu only	250	14 Nm, 124 lb-in 5 Nm, 44 lb-in (AWG 10)
	NZM2-XKA	1 × AWG 6 – 350 kcmil	Cu only	250	30 Nm, 265 lb-in
1)	NZM2-XKS	1 × AWG 12 – 350 kcmil	Cu only	250	14 Nm, 124 lb-in
2)	integrated Auxiliary Terminal	1 × AWG 12 – 18	Cu only		1.2 Nm, 11 lb-in

1) Connector Pads Type NZM2-XKS for Compression Crimp lugs supplied standard on all NZM2 circuit breakers and switches.
2) Integrated Auxiliary Terminal on Barrel (Tunnel) Mechanical lug Connector Type NZM2-XKA only.

Moeller GmbH, Industrieautomation, D-53105 Bonn

Änderungen vorbehalten
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