Powering Business Worldwide

01/24 IL012099ZU

Instruction Leaflet
Montageanweisung
Notice d'installation
Instrucciones de montaje
Istruzioni per il montaggio
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Инструкция по монтажу
Montagehandleiding
Montagevejledning
Οδηγίες εγκατάστασης
Instruções de montagem
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Asennusohje
Návod k montáži
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Szerelési utasítás
Montāžas instrukcija
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Navodila za montažo
Návod na montáž
Монтажни инструкции
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Montaj talimatı
Упутство за употребу
Monteringsanvisning
Інструкція з монтажу
منشـــور التعليمـــات

(en) **Electric current! Danger to life!**
Installation, commissioning and maintenance work must be carried out by qualified personnel only.

(de) **Lebensgefahr durch elektrischen Strom!**
Arbeiten bzw. Montage an diesem Produkt dürfen nur von Elektrofachkräften und elektrotechnisch unterwiesenen Personen ausgeführt werden.

(fr) **Tension électrique dangereuse !**
L'installation de l'appareil, ainsi que tous les travaux effectués sur celui-ci, doivent être réalisés par un électricien qualifié ou par un personnel spécialement formé.

(es) **¡Corriente eléctrica! ¡Peligro de muerte!**
La instalación del dispositivo, así como todos los trabajos en él, deben ser realizados por un electricista calificado o por personal especialmente capacitado.

(it) **Tensione elettrica: Pericolo di morte!**
L'installazione e il lavoro sul dispositivo devono essere effettuati da un elettricista qualificato o da personale specializzato.

(zh) **触电危险！**
設備的安裝，以及所有工作，必須由合格的電工或經過專門培訓的人員完成。

(ru) **Электрический ток! Опасно для жизни!**
Установка и эксплуатация устройства должны выполняться квалифицированным электриком или специально обученным персоналом.

(nl) **Levensgevaar door elektrische stroom!**
Installatie van het apparaat en alle werkzaamheden eraan, mogen uitsluitend door een gekwalificeerd elektricien of speciaal opgeleid vakpersoneel worden uitgevoerd.

(da) **Livsfare på grund af elektrisk strøm!**
Arbejde i forbindelse med installation, opstart ogvedligehold må kun udføres af kvalificeret personale.

(el) **Προσοχή, κίνδυνος ηλεκτροπληξίας!**
Η εγκατάσταση, εκκίνηση και συντήρηση θα πρέπει να πραγματοποιείται μόνο από εξειδικευμένο προσωπικό.

(pt) **Perigo de vida devido a corrente eléctrica!**
A instalação do dispositivo, bem como todos os trabalhos devem ser realizados por um eletricista qualificado ou por pessoal especialmente formado.

(sv) **Livsfara genom elektrisk ström!**
Installation, idrifttagande och underhållsarbete får endast utföras av behörig personal.

(fi) **Hengenvaarallinen jännite!**
Laitteen asennus ja käyttö ainoastaan sähköasentajan tai siihen perehdytetyn henkilön toimesta.

(cs) **Nebezpečí úrazu elektrickým proudem!**
Instalace zařízení a veškeré práce na něm musí být provedeny kvalifikovaným elektrikářem nebo speciálně vyškoleným personálem.

(et) **Eluohtlik! Elektrilöögioht!**
Paigaldus-, kasutus- ja hooldustöid peab läbi viima ainult kvalifitseeritud personal.

(hu) **Életveszély az elektromos áram révén!**
Az eszköz felszerelését, valamint az ehhez kapcsolódó összes munkát szakképzett villanyszerelővel vagy szakképzett személyzetnek kell elvégeznie.

(lv) **Elektriskā strāva apdraud dzīvību!**
Uzstādīšana, nodošana ekspluatācijā un apkopes darbi jāveic tikai kvalificētam personālam.

(lt) **Pavojus gyvybei dėl elektros srovės!**
Įrengimo, paleidimo ir techninės priežiūros darbus turi atlikti tik kvalifikuotas personalas.

(pl) **Porażenie prądem elektrycznym stanowi zagrożenie dla życia!**
Instalacja urządzenia, jak również prace nad nim, muszą być wykonywane przez wykwalifikowanego elektryka lub specjalnie wyszkolony personel.

(sl) **Življenjska nevarnost zaradi električnega toka!**
Dela montaže, zagona in vzdrževanja morajo izvajati samo usposobljeno osebje.

(sk) **Nebezpečenstvo ohrozenia života elektrickým prúdom!**
Inštalácia prístroja, ako aj všetky práce na ňom musia byť vykonané kvalifikovaným elektrotechnikom alebo špeciálne vyškoleným personálom.

(bg) **Опасност за живота от електрически ток!**
Инсталирането на устройството, както и всяка работа по него, трябва да бъде извършвано от квалифициран електротехник или от специално обучен персонал.

(ro) **Atenție! Pericol electric!**
Montajul și lucrul cu acest aparat trebuie făcute numai de un electrician calificat sau de personal tehnic specializat.

(hr) **Opasnost po život uslijed električne struje!**
Radove ugradnje, puštanja u pogon i održavanja mora vršiti samo kvalificirano osoblje.

(tr) **Elektrik akımı! Hayati tehlike!**
Bu ürünün çalıştırılması veya kurulumu sadece elektroteknik eğitimleri almış olan ehliyetli elektrikçiler ve kişiler tarafından yapılmalıdır.

(sr) **Електрична струја! Опасност по живот!**
Инсталацију, пуштање у рад и одржавање сме да обавља искључиво квалификовано особље.

(no) **Elektrisk strøm! Livsfare!**
Installasjon av enheten, samt arbeid på den, skal kun utføres av kvalifisert personell, eller av de som er spesielt opplært til dette arbeidet.

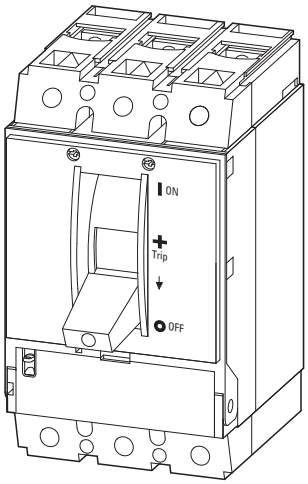
(uk) **Електричний струм! Небезпечно для життя!**
Встановлення пристрою, так само, як і робота з ним, повинні виконуватись кваліфікованим електриком або персоналом, що пройшов спеціальну підготовку.

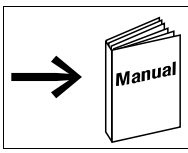
(ar) **! تحـذير ! تيـار كهربـائي ! خطـر مـوت**
التثبيـــت والتكليـــف و أعمـــال الصـيانة يجـب أن تقـام فقـط مـن طـرف المـــوظفين المـــؤهلين

NZMB(C)(N)(S)(H)(L)2(-4)-A(M)(S)…
NZMN(S)(H)(L)2(-4)-AX(MX)(VX)(PX)(PMX)…
(P)N2(-4)-…

NZMB(N)(H)(L)2-A(AF)…(-BT)-NA
NZMB(N)(H)(L)2-S…(-BT)-CNA
NZMN(H)(L)2-VX…(-BT)-NA

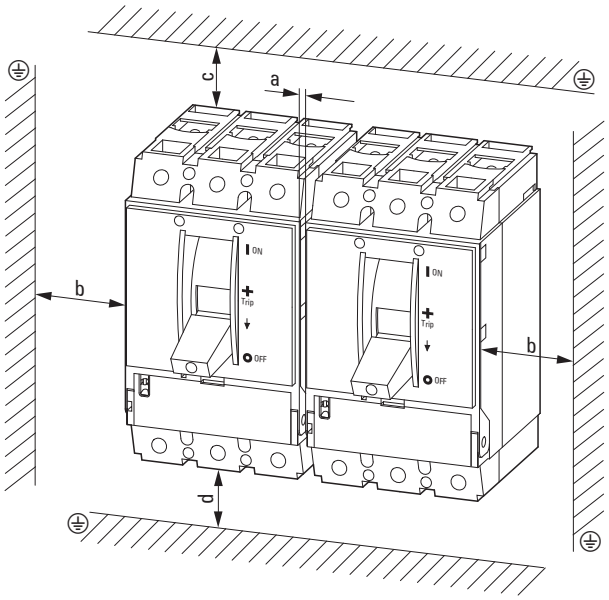
NZMN(H)2-MX...(-BT)-NA
N(S)2-…(-BT)-NA
NZMN(H)2-PX(PMX)…(-BT)-NA

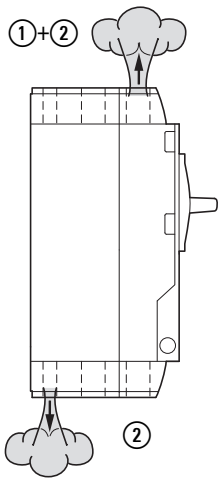




MN012005DE(EN)

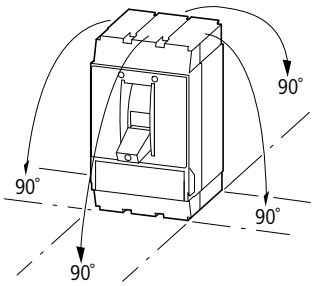
(en) Minimum clearance/ direction of blow-out
(de) Mindestabstände/ Ausblasrichtung
(fr) Distances minimales/ sens de soufflage
(es) Distancias mínimas/ dirección de soplado
(it) Distanze minime/ direzione di scarico
(ru) Минимальные расстояния направление продувки
(nl) Minimale afstanden/ uitblaasrichting
(da) Mindsteafstande/ udblæsningsretning
(el) Ελάχιστες αποστάσεις/ Κατεύθυνση εκφύσησης
(pt) Distâncias mínimas/ Direção de sopro
(fi) Minimietäisyydet/ puhallussuunta
(cs) Minimální odstupy/ směr vyfukování
(et) Minimaalsed vahekaugused/ puhumissuund
(hu) Legkisebb távolságok / kifúvás iránya
(lv) Minimālie attālumi/ izpūšanas virziens
(lt) Mažiausieji atstumai išpūtimo kryptis
(pl) Minimalne odstępy/ kierunek wydmuchu
(sl) Minimalne razdalje/ smer izpihovanja
(sk) Minimálne odstupy/ smer vyfukovania
(bg) Минимални разстояния/ Посока на издухване
(ro) Distanțe minime/ Direcția de suflare
(hr) Minimalni razmaci / smjer ispuhivanja
(tr) Minimum mesafeler/ püskürtme yönü
(sr) Минимално одобрење/ правац издувавања
(no) Minimumsavstander/ utblåsningsretning
(zh) 最小间距 / 吹气方向
(uk) Мінімальні відстані/ напрям видування
(sv) Min. avstånd/utblåsriktning
(ar) أدنـــى خلوص/اتجـــاه النفـــخ





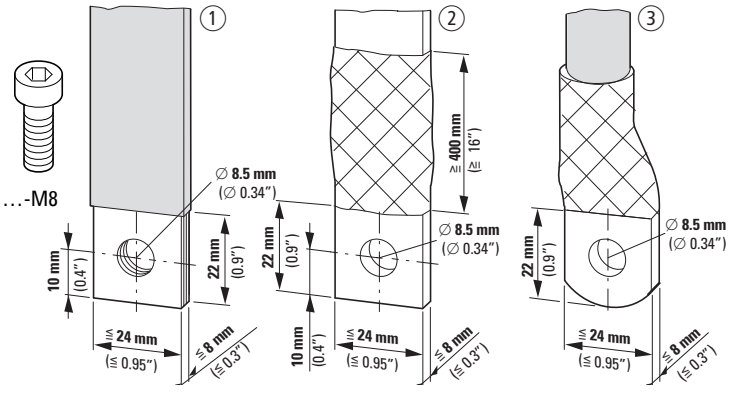
① NZMB(C)2-A160(200)(250), (P)N2(-4)…

② NZM...2-...

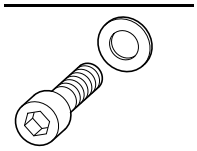


	a	b		c			d		
		≦ 690 V	1000 V	≦ 440 V	≦ 690 V	1000 V	≦ 440 V	≦ 690 V	1000 V
NZM2...-...	5	5	5	20	35	35	20	35	35
NZMB(C)2-A160(200)(250)	5	5	–	20	60	–	0	0	–
(P)N2(-4)...	5	5	–	35	35	–	0	0	–

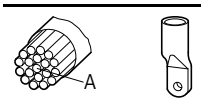
(en) Terminals
(de) Anschlusstechnik
(fr) Technique de raccordement
(es) Técnica de conexionado
(it) Tipi di collegamento
(zh) 连接技术
(ru) Техника присоединения
(nl) Aansluittechniek
(da) Tilslutningsteknik
(el) Τεχνική συνδέσεων
(pt) Técnica de ligação
(sv) Anslutningsteknik
(fi) Liitäntätekniikka
(cs) Technika připojení
(et) Ühendusviis
(hu) Csatlakozástechnika
(lv) Pieslēgšanas tehnika
(lt) Prijungimo būdas
(pl) Technika przyłącza
(sl) Vrsta priključkov
(sk) Technika prepojenia
(bg) Свързваща техника
(ro) Mod de conectare
(hr) Priključna tehnika
(tr) Bağlantı tekniği
(sr) Priključna tehnika
(no) Koblingsteknikk
(uk) Технологія підключення
(ar) المحطـات



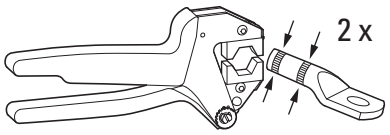
①	②	③
≧ 2 x 9 x 0.8 mm ≧ 2 x 0.35" x 0.03"	≧ 16 x 5 mm ≧ 0.63" x 0.2"	1 x 4 – 185 mm²
≦ 10 x 16 x 0.8 mm ≦ 10 x 0.63" x 0.03"	≦ 20 x 5 mm ≦ 0.8 x 0.2"	2 x 4 – 70 mm²
≦ 6 x 24 x 0.5 mm ≦ 6 x 0.95" x 0.02"		



3pol	M8 x 22
4pol	



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



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

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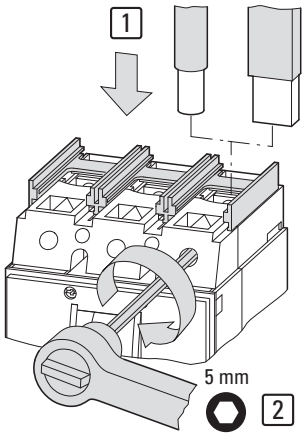
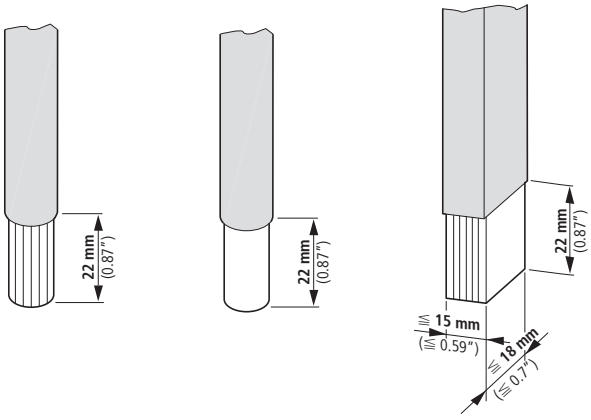
NZMB(N)(H)(L)2-A(AF)…-BT(-NA)
NZMB(N)(H)(L)2-S…-BT(-CNA)
NZMN(H)(L)2-VX…-BT(-NA)
NZMN(H)2-MX...-BT(-NA)
N(S)2-…-BT(-NA)
NZMN(H)2-PX(PMX)…-BT(-NA)





Nm		lb-in		
14	> 10 mm², > AWG8	124	>	AWG 8
5	≦ 10 mm², ≦ AWG8	44	≦	AWG 8

1x 10– 185 mm²	1x 10– 16 mm²	≧ 2 x 9 x 0.8mm ≧ 2 x 0.35“ x 0.03“
2 x 10– 70 mm²	2 x 6– 16 mm²	
1 x AWG4 – 350 kcmil	1 x AWG12 – AWG6	
2 x AWG8 – AWG00	2 x AWG10 – AWG6	

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

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 x AWG 12 – 350 kcmil 2 x AWG 10 – 00	Cu only	250	14 Nm (124 lb-in) 5 Nm (44 lb-in)(AWG8)
	NZM2-XKA	1 x AWG 6 – 350 kcmil	Cu only	250	30 Nm (265 lb-in)
1)	NZM2-XKS	1 x AWG 12 – 350 kcmil 2 x AWG 10 – 00	Cu only	250	14 Nm (124 lb-in)
2)	Integrated Auxiliary Terminal	1 x 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.

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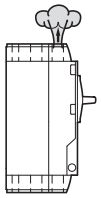
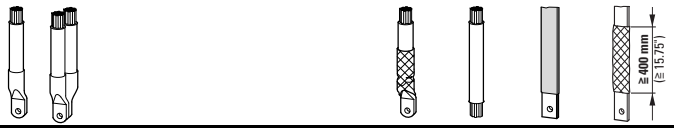
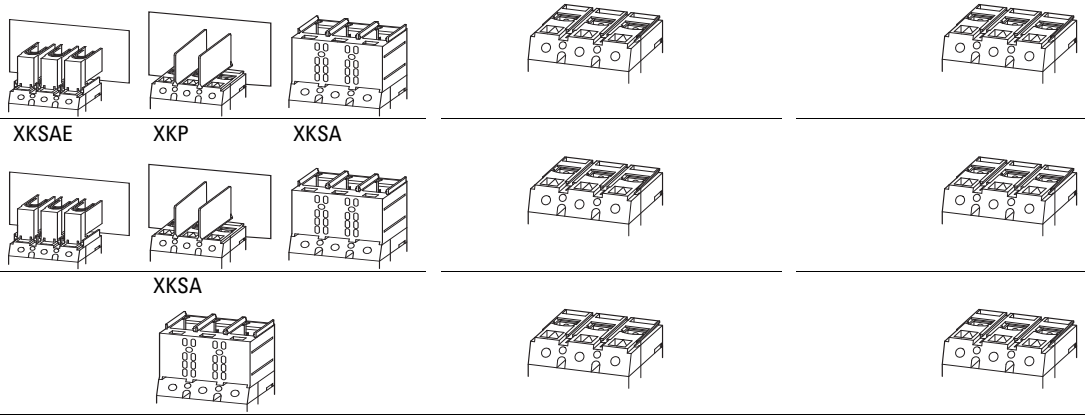
NZMB(C)2-A160(200)(250)
(P)N2…

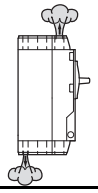


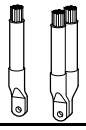


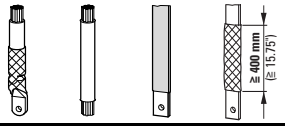
≦ 415 V	XKSAE, XKP, XKSA		
≦ 525 V	XKSAE, XKP, XKSA		
> 525 V	XKSA		

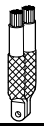


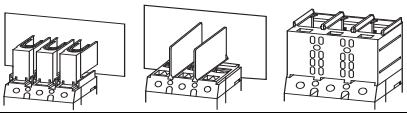
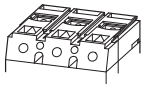
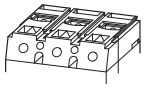
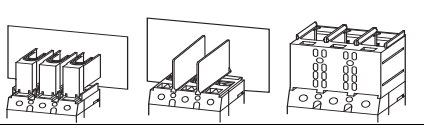
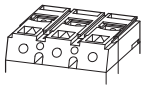
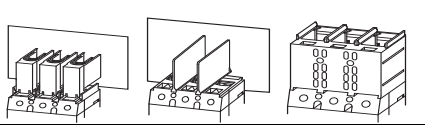
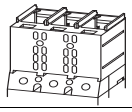
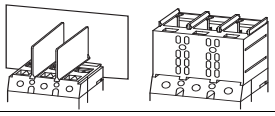
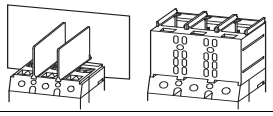
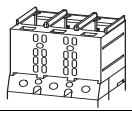
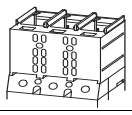
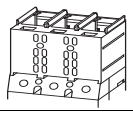
NZM…2-…, (P)N2-4-…



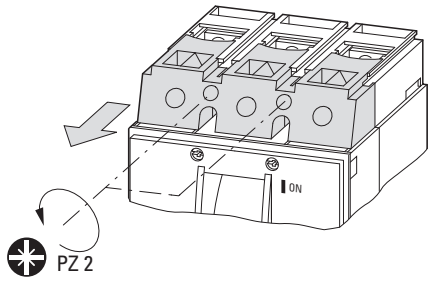






≦ 415 V	XKSAE	XKP	XKSA					
								
≦ 525 V	XKSAE	XKP	XKSA				XKSAE	XKP	XKSA
								
≦ 690 V	XKSA			XKP	XKSA		XKP	XKSA
								
> 690 V	XKSA				XKSA			XKSA	
									

1



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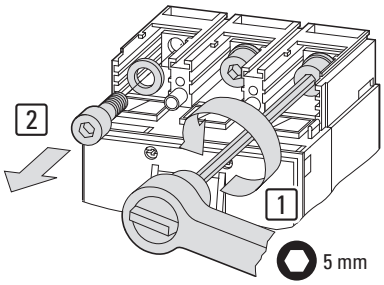

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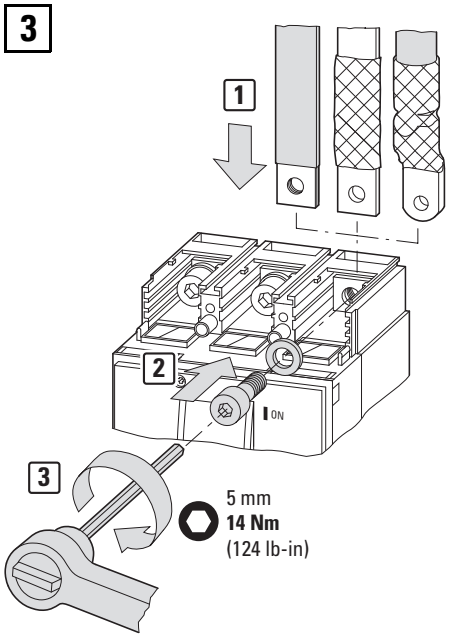
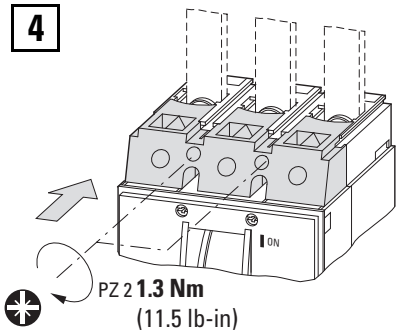


UL/CSA models:
Follow diagrams below when making connections using XKS screw terminations for compression crimp lugs:
– Always use terminal cover XKSA when making connections with bare bus or non-insulated crimp lugs, or when two wires per phase are connected.
To mount terminal cover XKSA, refer to instruction sheet **IL012060007Z** (AWA1230-2047).

4



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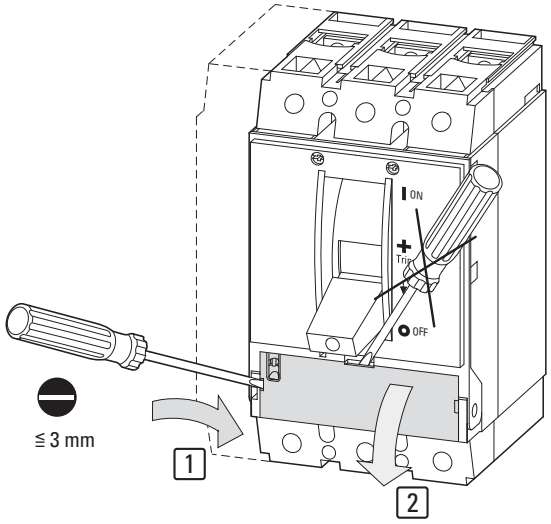
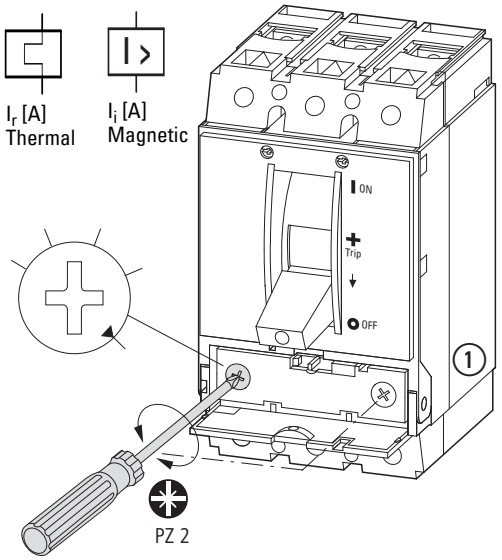
(en) **Settings**	(ru) **Настройка**	(fi) **Asetukset**	(pl) **Ustawienia**	(tr) **Ayarlar**
(de) **Einstellungen**	(nl) **Instelling**	(cs) **Nastavení**	(sl) **Nastavitev**	(sr) **Подешавања**
(fr) **Réglages**	(da) **Indstillingen**	(et) **Seadistused**	(sk) **Nastavenia**	(no) **Innstillinger**
(es) **Parámetros**	(el) **Ρυθμίσεις**	(hu) **Beállítások**	(bg) **Настройки**	(uk) **Налаштування**
(it) **Impostazioni**	(pt) **Ajustes**	(lv) **Iestatījumi**	(ro) **Setarea**	(ar) **الإعـدادات**
(zh) **设置**	(sv) **Inställningar**	(lt) **Nustatymai**	(hr) **Postavke**	

NZM…2(-4)-A(M)(S)…
NZM…2-A(AF)…-NA
NZM…2-S…-CNA

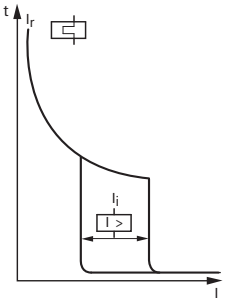
1



2



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



NZMN(H)2-A... ⎓ $I_{i, DC} / 1.35 = I_{i, AC}$ → DC... (1)

Data sheet
...
...
DC...
...

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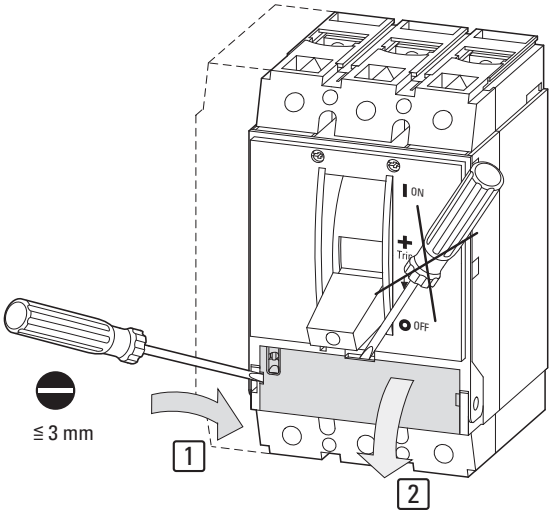
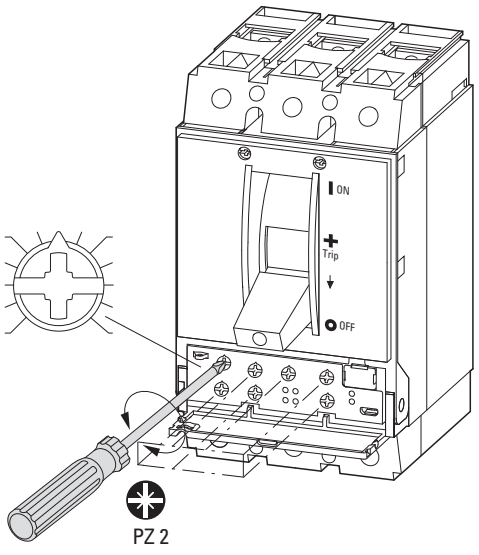
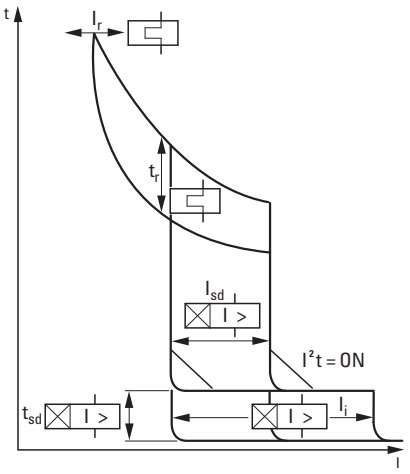
NZM…2(-4)-AX(MX)(VX)(PX)(PMX)…
NZM…2-VX…(-BT)-NA
NZM…2-MX...(-BT)-NA
NZM…2-PX(PMX)…(-BT)-NA

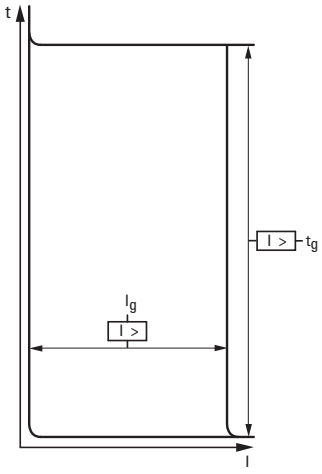
1



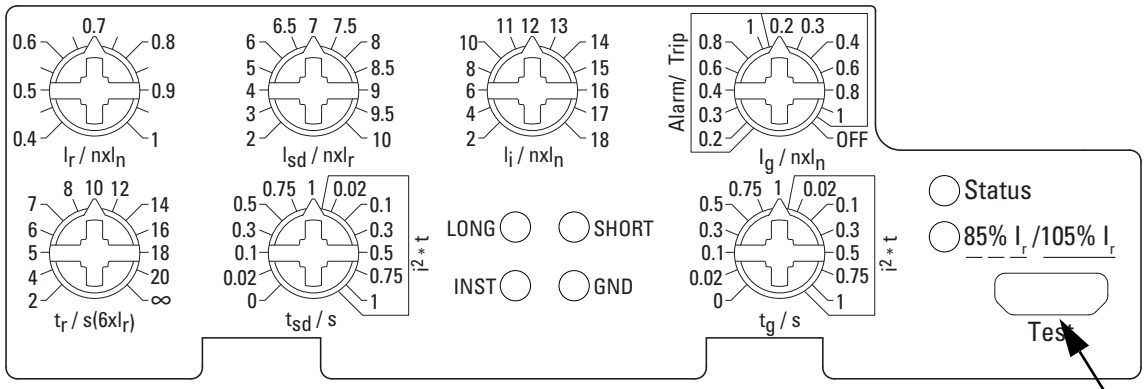
2 **I_r [A], t_r [s], I_{sd} [A], t_{sd} [ms], I_i [A], I_g [A], t_g [ms]**
Electronic Trip Circuit Breaker Adjustable settings







PXR10/20: NZM2…AX(MX)(VX)



		I_r	t_r	I_{sd}	t_{sd}	I_i	I_g	t_g
PXR10	-AX(-NA)	x	–	–	–	x	–	–
PXR20	-MX(-NA)	x	x	–	–	x	–	–
	-VX(-NA)	x	x	x	x	x	–	–
	-VX-T(-NA)	x	x	x	x	x	x	x

Micro-USB
↓
Power Xpert
Protection Manger
www.eaton.com/PXPM



PXR25: NZM2…PX(PMX)

		I_r	t_r	I_{sd}	t_{sd}	I_i	I_g	t_g
PXR25	-PX(-NA)	x	x	x	x	x	–	–
	-PMX(-NA)	x	x	–	–	x	–	–
	-PX-TZ(-NA)	x	x	x	x	x	x	x

	L		S		I	G	
	I_r	t_r/s	I_{sd}	t_{sd} /ms	I_i	I_g	t_g /ms
|⟷|	0.4 - 1	2 - 20	2 - 10	0 - 1000	2 -18	0.2 - 1	0 - 1000
⟼	1 A	0.1	0.1	10	0.1	0.1	10
	i^2t		Flat / i^2t			Alarm / Trip	Flat / i^2t
OFF		∞				OFF	

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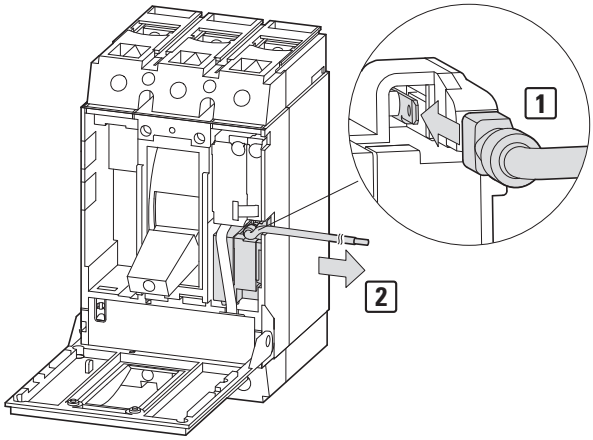
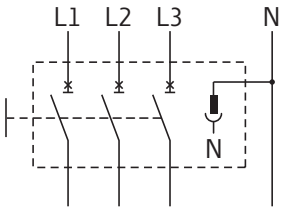
Energy metering

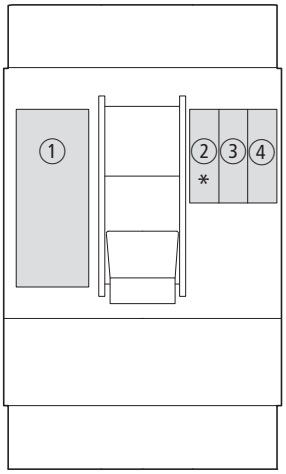
(en) Energy metering
(de) Energiemessung
(fr) Mesure d'énergie
(es) Medición de energía
(it) Misurazione dell'energia
(zh) 能量测量装置
(ru) Измерение энергии
(nl) Energiemeting
(da) Energimåling
(el) Μέτρηση ενέργειας
(pt) Medição de energia
(sv) Energimätning
(fi) Energianmittaus
(cs) Měření energie
(et) Energia mõõtmine
(hu) Energiamérés
(lv) Enerģijas mērīšana
(lt) Energijos matavimas
(pl) Pomiar energii
(sl) Merjenje energije
(sk) Meranie energie
(bg) Измерване на енергия
(ro) Măsurarea energiei
(hr) Mjerenje energije
(tr) Enerji ölçümü
(sr) Merenje energije
(no) Energimåling
(uk) Вимірювання енергії
(ar) قيـــاس الطاقـــة





Accessories

(en) Accessories
(de) Zubehör
(fr) Équipements complémentaires
(es) Accesorios
(it) Accessori
(zh) 附件
(ru) Принадлежности
(nl) Toebehoren
(da) Tilbehør
(el) Παρελκόμενα
(pt) Acessórios
(sv) Tillbehör
(fi) Lisävarusteet
(cs) Příslušenství
(et) Lisatarvikud
(hu) Tartozék
(lv) Piederumi
(lt) Priedai
(pl) Akcesoria
(sl) Pribor
(sk) Príslušenstvo
(bg) Аксесоари
(ro) Accesorii
(hr) Pribor
(tr) Aksesuarlar
(sr) Прибор
(no) Tilbehør
(uk) Приладдя
(ar) الملحقـــات



	① XA XU XHIV X2A	② 4.1 HIA BSM	③ 1.1 HIN BSM	④ 1.2 HIN COM
M22-(C)K…	–	✓	✓	✓
M22-CK20(02,11)	–	✓	✓	✓
NZM…-XHIV(-PI)	✓	–	–	–
NZM…-XA…(-PI)	✓	–	–	–
NZM…-XAHIV…(-PI)	✓	–	–	–
NZM…-XU…(-PI)	✓	–	–	–
NZM…-XUHIV…(-PI)	✓	–	–	–
NZM…-X2A…	✓	–	–	–
NZM…-XA2A…	✓	–	–	–
NZM…-XU2A…	✓	–	–	–
NZM…-XUHIV2A…	✓	–	–	–
NZM…-XPS…	–	✓		–
NZM…-XBSM…	–	✓		–
PXR-RCAM-MRTU-I	–	–	–	✓

* ~~PN2…~~

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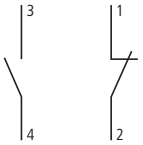
M22-…

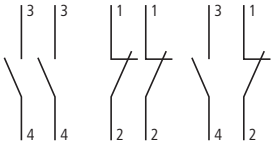


M22-K10 ...-K01
M22-CK10 ...-CK01

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	0.6
	220	0.3



M22-CK20 ...-CK02 ...-CK11

IEC

$I_{th} = I_e$

	U_e (V)	I_e (A)
AC-15	115	4
	230	4
DC-13	24	3
	42	1
	60	0.8
	110	0.5
	220	0.2

Notes on mounting and wiring Auxiliary Switches for UL/CSA labeled models:
– M22-K(10)(01) have screw terminals. M22-CK(10)(01)(20)(02)(11) 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.

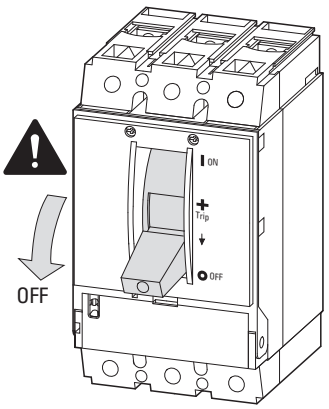
-NA
-CNA
(UL/CSA)

$I_{th} = I_e$

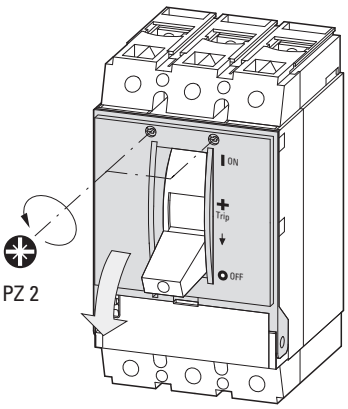
U_e (V)	I_e (A)
600 AC	5 A
250 DC	1 A

Pilot Duty Ratings:
B 600, Q 300
Above 300 V AC
Same polarity

1



2



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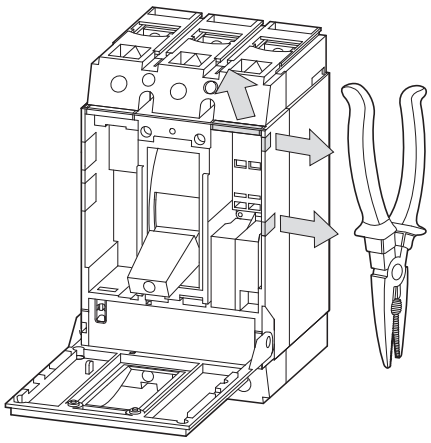
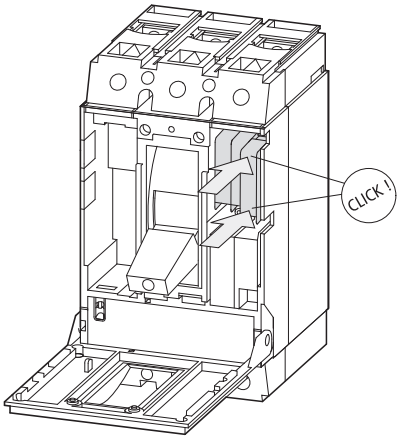


4



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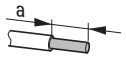
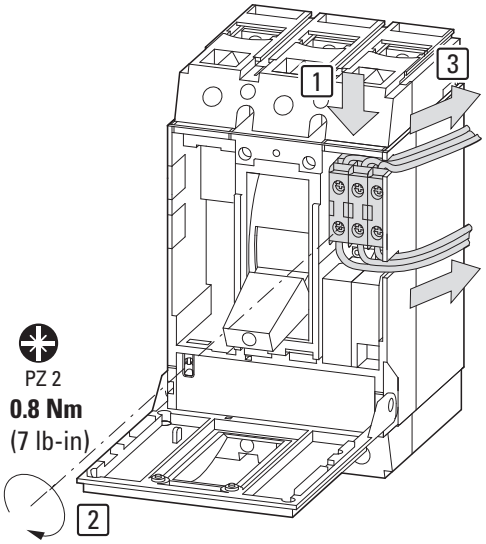
5a M22-K10, M22-K01

(Screw Terminals)



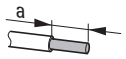
a = 6 – 10 mm
(a = 0.24 – 0.4“)

	2 x 0.75 – 2.5 mm^2 2 x AWG 18 – AWG 14
	UL/CSA = Cu only



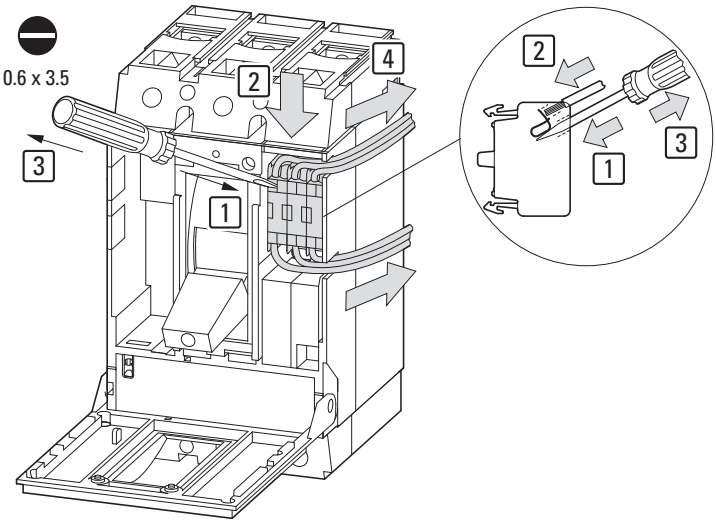
5b M22-CK10, M22-CK01

(Clamp Terminals)



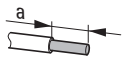
a = 8 mm
(a = 0.3“)

	2 x 0.75 – 2.5 mm^2 2 x AWG 18 – AWG 14
	UL/CSA = Cu only



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

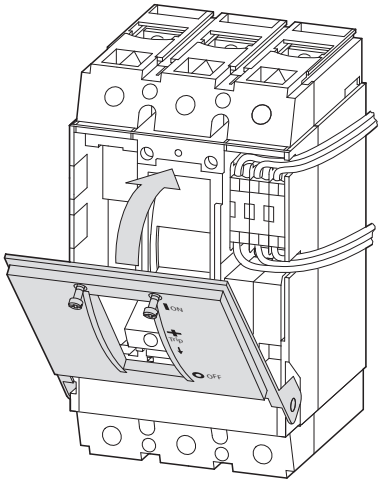
(Clamp Terminals)



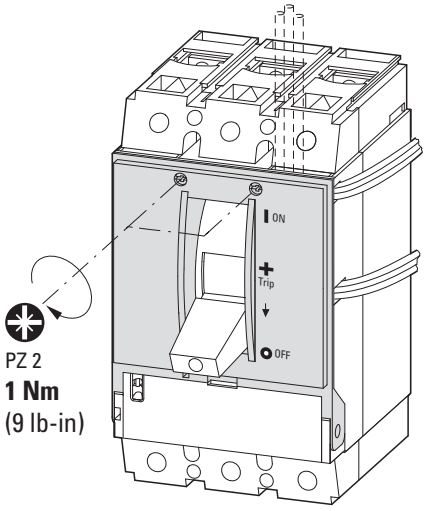
a = 8 mm
(a = 0.3“)

	1 x 0.5 – 1.5 mm^2 1 x AWG20 – AWG16 2 x 0.5 – 0.75 mm^2 2 x AWG20 – AWG18

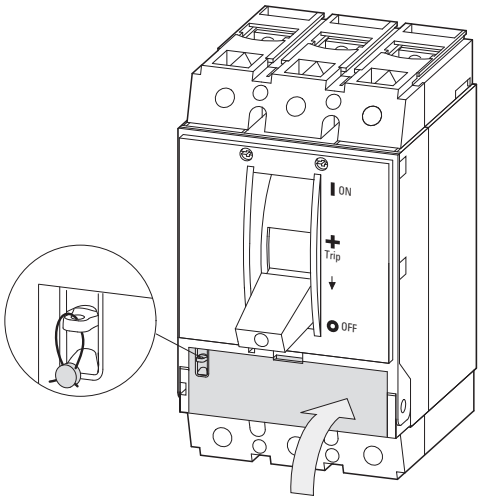
6



7



8



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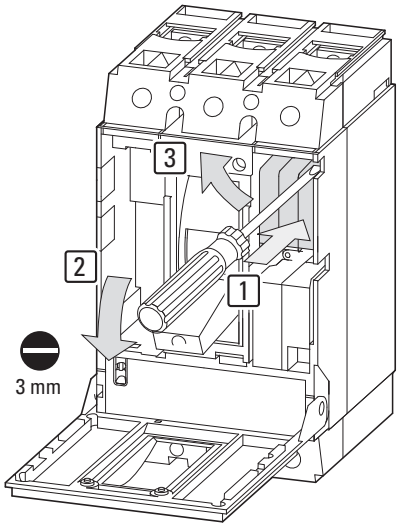
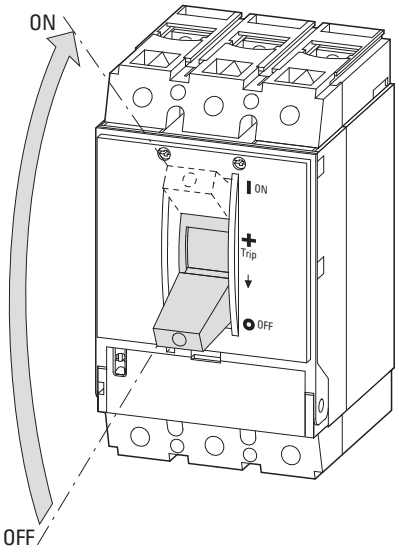
(en) **Dismounting**	(zh) **拆卸**	(pt) **Desmontagem**	(hu) **Leszerelése**	(sk) **Demontáž**	(sr) **Демонтирање**
(de) **Demontage**	(ru) **Демонтаж**	(sv) **Demontering**	(lv) **Demontāža**	(bg) **Демонтаж**	(no) **Demontering**
(fr) **Démontage**	(nl) **Demontage**	(fi) **Irrottaminen**	(lt) **Išmontavimas**	(ro) **Demontarea**	(uk) **Демонтаж**
(es) **Desmontaje**	(da) **Afmontering**	(cs) **Demontáž**	(pl) **Demontaż**	(hr) **Demontaža**	(ar) **التفكيـــــك**
(it) **Smontaggio**	(el) **Αφαίρεση**	(et) **Eemaldamine**	(sl) **Demontaţa**	(tr) **Sökme**	



(en) **Test**	(zh) **测试**	(pt) **Teste**	(hu) **Próba**	(sk) **Skúška**	(sr) **Тест**
(de) **Test**	(ru) **Проверка**	(sv) **Test**	(lv) **Pārbaude**	(bg) **Тест**	(no) **Test**
(fr) **Test**	(nl) **Test**	(fi) **Testi**	(lt) **Testas**	(ro) **Test**	(uk) **Тест**
(es) **Prueba**	(da) **Test**	(cs) **Zkouška**	(pl) **Test**	(hr) **Test**	(ar) **الاختبـــار**
(it) **Prova**	(el) **Δοκιμή**	(et) **Test**	(sl) **Test**	(tr) **Test**	

1



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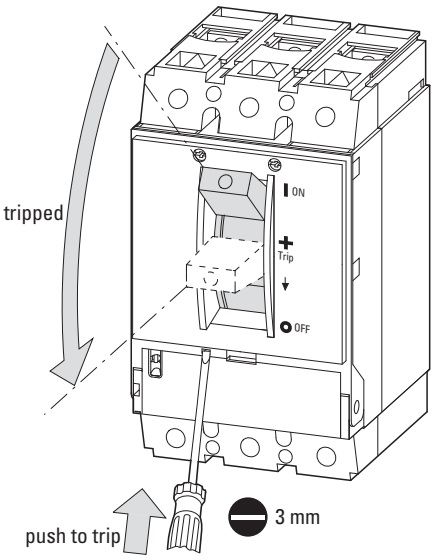
PN2-...



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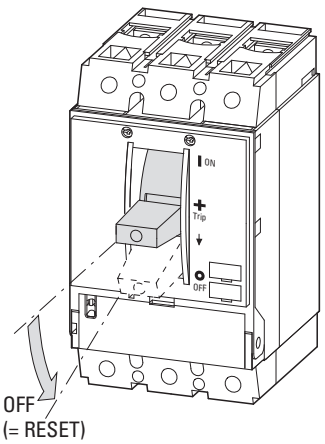
PN2-...



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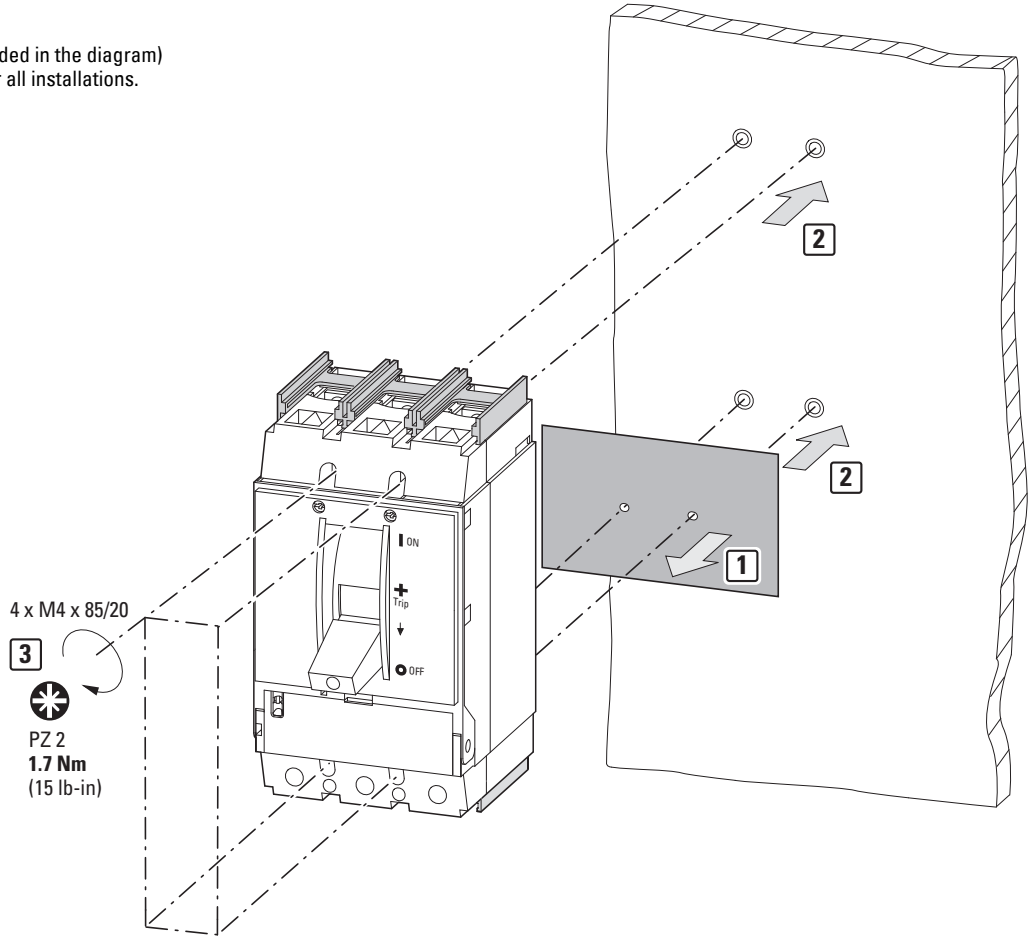
(en) **Mounting**	(zh) **固定**	(pt) **Fixação**	(hu) **Rögzítés**	(sk) **Pripevnenie**	(sr) **Монтажа**
(de) **Befestigung**	(ru) **Крепление**	(sv) **Fastsättning**	(lv) **Stiprinājums**	(bg) **Фиксиране**	(no) **Festing**
(fr) **Fixation**	(nl) **Bevestiging**	(fi) **Kiinnitys**	(lt) **Tvirtinimas**	(ro) **Fixarea**	(uk) **Кріплення**
(es) **Fijación**	(da) **Fastgørelse**	(cs) **Připevnění**	(pl) **Zamocowanie**	(hr) **Pričvršćenje**	(ar) **التركيـــــب**
(it) **Fissaggio**	(el) **Στερέωση**	(et) **Kinnitamine**	(sl) **Pritrditev**	(tr) **Bağlantı**	

Insulating plate,

Mounting of insulating plate, (shown shaded in the diagram) is required on UL/CSA labeled models for all installations. Mount as shown in diagram.



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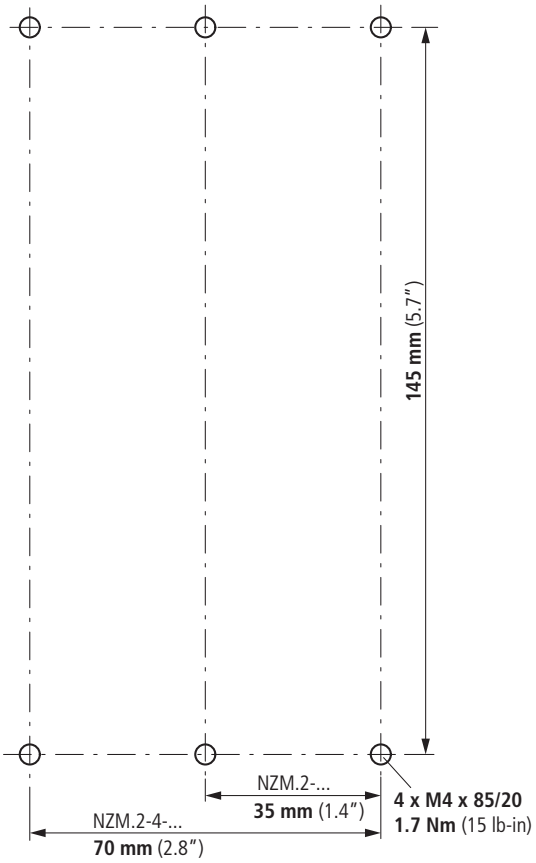

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