

Operating instructions	Contactors
Betriebsanleitung	Schütze
Notice d'instructions	Contacteurs
Instruktion	Kontaktorer
Istruzioni tecniche	Contattori
Instrucciones de empleo	Contactores
Ohje	Kontaktori
使用手册	接触器
Инструкция по применению	Контакторы



ar

تحذير: جهد كهربائي خطراً!  
راجع تعليمات التشغيل.  
افصل الكهرباء وقم بتأمينها قبل العمل في هذا الجهاز.  
تنبيه! يجب عدم التركيب إلا من خلال شخص على دراية بمجال التقنية الكهربائية .

bg

Предупреждение: Опасно напрежение!  
Вижте инструкциите за работа.  
Изключете и блокирайте захранването преди да работите с устройството.  
Внимание! Да се монтира само от експерт електротехник.

cs

Varování: Nebezpečné napětí!  
Viz návod k obsluze.  
Před zahájením prací na tomto zařízení odpojte a uzamkněte napájení.  
Pozor! Toto zařízení smí instalovat pouze osoba s elektrotechnickou odborností.

da

Advarsel: Farlig elektrisk spænding!  
Se betjeningsvejledningen.  
Frakobl enheden, og afbryd strømforsyningen, før du arbejder med denne enhed.  
Giv agt! Installation må kun foretages af personer med elektroteknisk ekspertise.

de

Warnung: Gefährliche Spannung!  
Siehe Bedienungsanleitung.  
Vor dem Arbeiten Gerät ausschalten und von der Spannungsversorgung trennen.  
Achtung! Installation nur durch elektrotechnische Fachkraft.

el

Προειδοποίηση: Επικίνδυνη τάση!  
Ανατρέξτε στις οδηγίες λειτουργίας.  
Αποσυνδέστε και απομονώστε την παροχή ισχύος προτού ξε κινήσετε τις εργασίες σε αυτήν τη συσκευή.  
Προσοχή! Η εγκατάσταση πρέπει να γίνεται μόνο από αδειούχο ηλεκτρολόγο εγκαταστάτη.

en

Warning: Hazardous voltage!  
Refer to operating instructions.  
Disconnect and lock out power before working on this device.  
Attention! Installation by person with electrotechnical expertise only.

es

Advertencia: ¡Tensión peligrosa!  
Consulte las instrucciones de funcionamiento.  
Antes de trabajar con este dispositivo, desconecte y bloquee la corriente.  
¡Atención! La instalación debe ser realizada únicamente por un técnico electricista.

et

Hoiatus: Elektrilöögi oht!  
Lisateavet vaadake kasutusjuhendist.  
Enne selle seadmega töötamist ühendage lahti ja lukustage toide.  
Tähelepanu! Seadet tohib paigaldada ainult elektrotehnilise kogemusega isik.

fi

Varoitus: Vaarallinen jännite!  
Katso käyttöohje.  
Katkaise virta ja estä virran kytkeminen lukituksella ennen töiden aloittamista.  
Huomio! Asennuksen saa suorittaa vain henkilö, jolla on kokemusta sähkötekniikasta.

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Avertissement: Tension dangereuse!  
Consultez les consignes d'utilisation.  
Débranchez et verrouillez l'alimentation électrique avant d'entreprendre des travaux sur cet appareil.  
Attention! L'installation doit être effectuée uniquement par une personne ayant une expertise en électrotechnique.

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Upozorenje: Opasan napon!  
Pogledajte upute za uporabu.  
Odspojite i isključite struju prije rada na ovom uređaju.  
Pažnja! Ugradnja je dopuštena samo osobama stručnim u području elektrotehnike.

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Figyelmeztetés: Veszélyes feszültség!  
Lásd a használati utasítást.  
Válassza le és zárja ki az áramellátást, mielőtt a berendezésen dolgozni kezd.  
Figyelem! Az üzembe helyezést csak elektrotechnikai szakértelemmel rendelkező személy végezheti el.

it

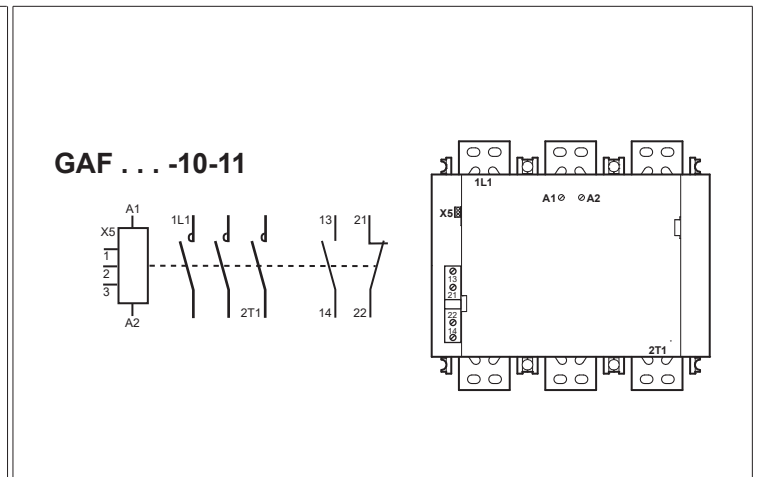
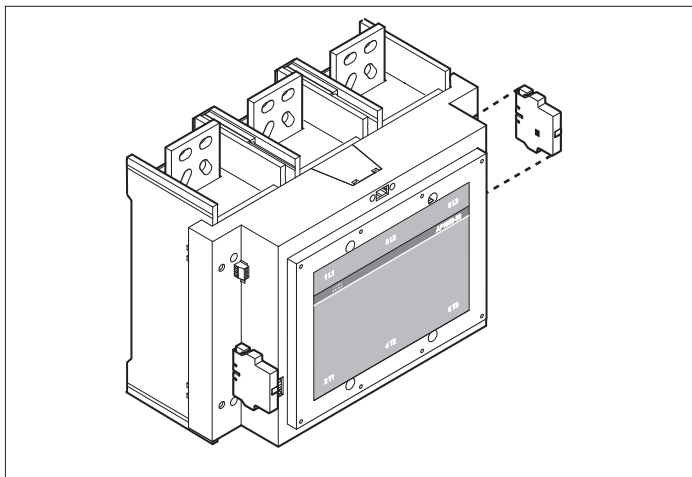
Attenzione: Tensione pericolosa!  
Fare riferimento alle istruzioni per l'uso.  
Prima di intervenire su questo dispositivo, scollegare e isolare tutte le fonti di alimentazione.  
Attenzione! L'installazione deve essere eseguita esclusivamente da un installatore qualificato.

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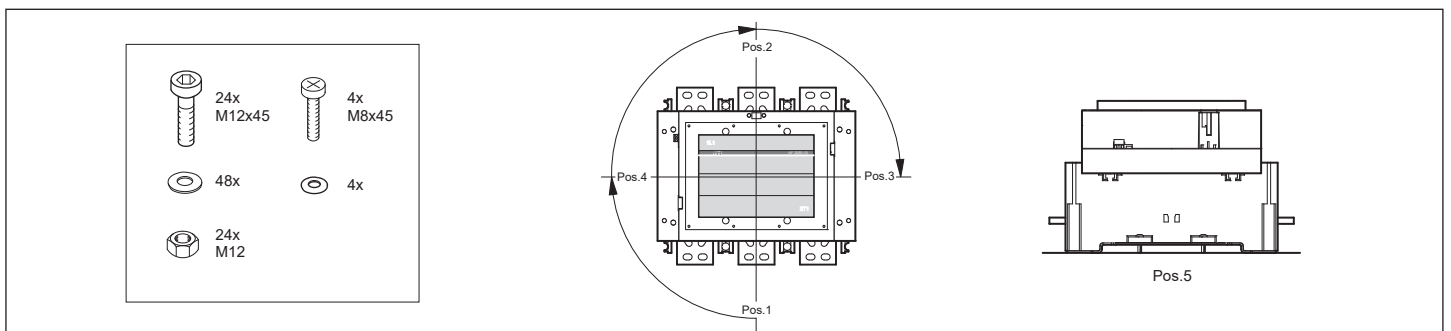
Įspėjimas: Pavojinga įtampa!  
Žr. naudojimo instrukcijas.  
Atjunkite ir laikinai užblokuokite maitinimą prieš dirbdami su šiuo įrenginiu.  
Dėmesio! Įrengti gali tik asmuo, turintis elektrotechniko patirties.



- lv Brīdinājums: Bīstams spriegums!  
Skatiet darba norādījumus.  
Pirms sākat darbu ar šo ierīci, atvienojiet un bloķējiet strāvas padevi.  
Uzmanību! Uzstādīšanu drīkst veikt tikai persona ar zināšanām par elektrotehniku.
- nl Waarschuwing: Gevaarlijke spanning!  
Raadpleeg de bedieningsinstructies.  
Koppel dit apparaat los van de stroomvoorziening voordat u werkzaamheden uitvoert.  
Let op! Installatie mag alleen worden uitgevoerd door een monteur met elektrotechnische expertise.
- no Advarsel: Farlig spenning!  
Se i bruksanvisningen.  
Koble fra og steng av strømmen før du arbeider på denne enheten.  
Forsiktig! Montering skal kun utføres av kvalifiserte personer med elektrokompetanse.
- pl Ostrzeżenie: Niebezpieczne napięcie!  
Patrz: instrukcja obsługi.  
Przed rozpoczęciem wykonywania pracy z tym urządzeniem odłącz i zablokuj zasilanie.  
Uwaga! Montaż może wykonywać wyłącznie osoba posiadająca doświadczenie elektrotechniczne.
- pt Aviso: Tensão perigosa!  
Consulte as instruções de operação.  
Desconecte e desligue a energia elétrica antes de trabalhar nesse dispositivo.  
Atenção! A instalação deve ser feita apenas por uma pessoa com especialidade eletrotécnica.
- ro Avertisment: Tensiune electrică periculoasă!  
Consultați instrucțiunile de utilizare.  
Deconectați și închideți sursa de energie înainte de a lucra cu acest dispozitiv.  
Atenție! Instalarea trebuie realizată doar de către o persoană cu expertiză electrotehnică.
- ru Внимание: Опасное электрическое напряжение!  
Обратитесь к инструкциям по эксплуатации.  
Отключите питание и обесточьте устройство перед началом работ.  
Внимание! Установка должна выполняться только специалистом по электротехническим работам.
- sk Výstraha: Nebezpečné napätie!  
Pozrite si návod na použitie.  
Pred začatím prác na tomto zariadení odpojte a zablokujte napájanie.  
Pozor! Inštaláciu smie vykonávať len osoba s odbornými znalosťami v oblasti elektrotechniky.
- sl Opozorilo: Nevarna napetost!  
Glejte navodila za uporabo.  
Pred delom na tej napravi izklopite in zaklenite električno napajanje.  
Pozor! Namestitvev sme izvesti samo elektrotehnični strokovnjak.
- sv Varning: Livsfarlig spänning!  
Se i bruksanvisningen.  
Frånkoppla och blockera anläggning eller en anläggningsdel innan arbete utförs.  
Obs! Får endast installeras av behörig elektriker.
- tr Uyarı: Tehlikeli gerilim!  
Çalışma talimatlarına bakın.  
Bu cihaz üzerinde çalışmadan önce elektriği kesin ve kilitleyin.  
Dikkat! Yalnızca elektroteknik uzmanlığı sahip kişiler tarafından kurulabilir.
- zh 警告：高压危险！  
请参见操作手册  
操作本设备前请断开并锁定电源。  
注意！安装仅限专业电工人员。



According to UL 60947-4-1: AF1350, AF 1650 Enclosure with three latches and with min.dimsension 48 by 36 by 18 inches should be used.

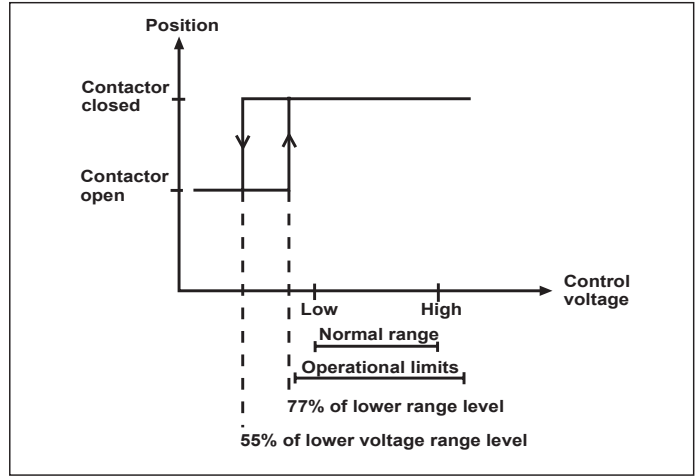


**General**

GAF-Contactors are fitted with an electronic coil interface. For a given coil, this interface allows the contactor to accept a very wide voltage range. The Contactor can also be controlled by separate logic control signals from for instance a PLC. Selection of control method is done with switch S1. Control by switching voltage on A1 and A2 requires the switch in position B while control with logic signals requires the switch in position A. Use of the logic control signals also requires a steady supply voltage on A1 and A2 within the rated voltage range.

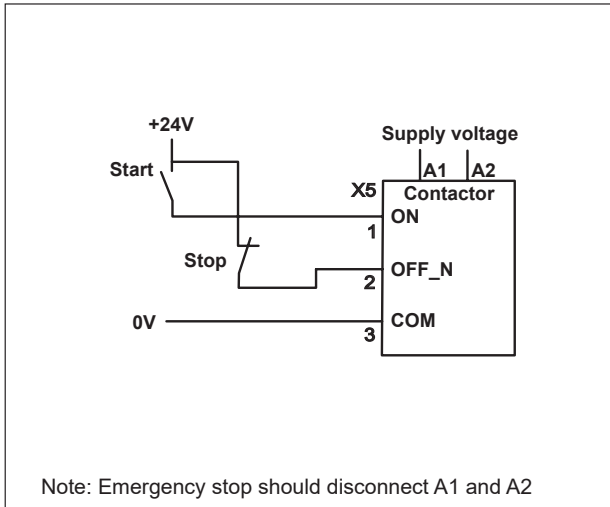
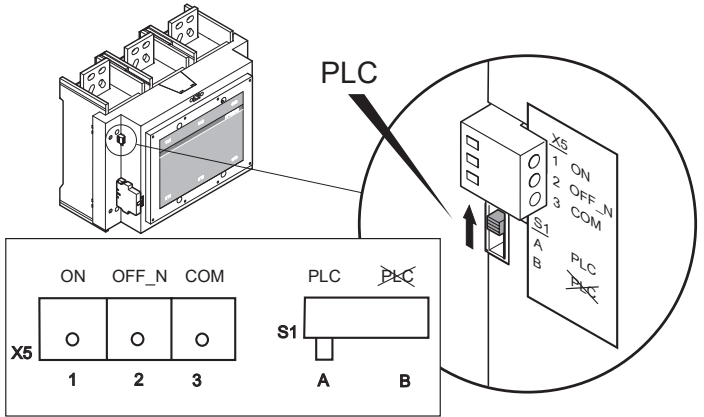
**Control by switching voltage on A1 and A2 (switch S1 in position B, default factory setting).**

Operation of GAF-Contactors can be done as with conventional contactors by applying and removing voltage on A1 and A2.

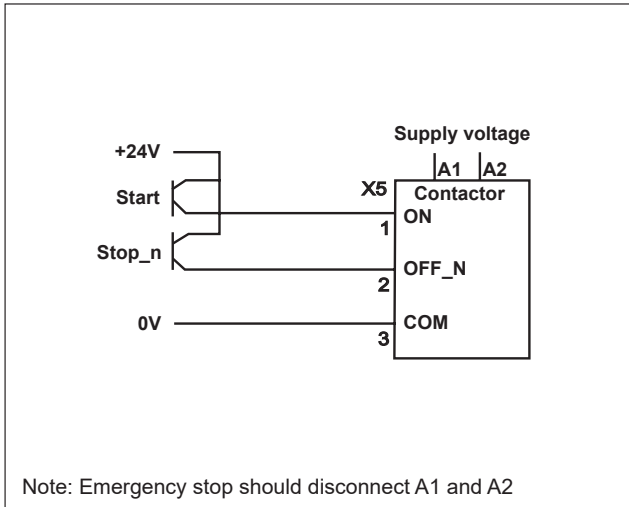


**Control with logic control signals (switch S1 in position a)**

Use of the logic control signals also requires a steady voltage on terminals A1 and A2 within the operational limits. Minimum pulse length for opening and closing: 7 ms. The function of the logic control signals will no longer be guaranteed when the voltage on A1 and A2 is removed. The logic control signals operates with 24 V DC and consist of two control signals (ON and OFF\_N) and a common reference (COM).

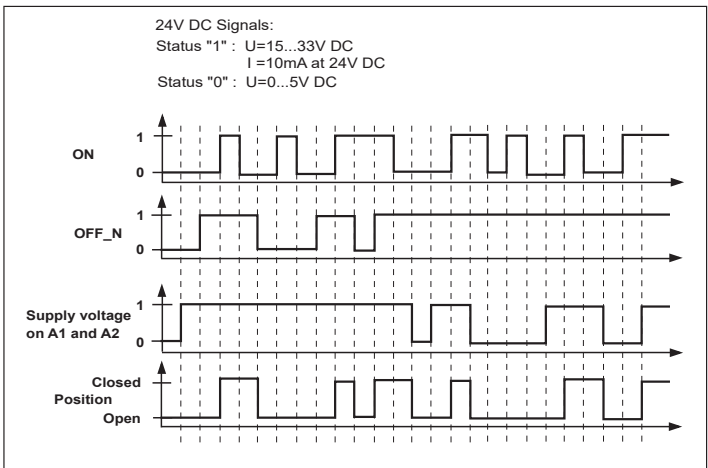


When used with switches the wiring can be done according to the following diagram.



When used with transistor outputs the wiring can be done according to the following diagram.

The functions are described with following diagram. "1" means 24 V DC between the control signal and COM, "0" means no voltage between the control signal and COM. The function is made so that ON and OFF\_N can be connected in parallel for a common ON/OFF signal. In addition to these signals the function limits for the supply voltage are still valid (closing at 77% and opening at 55%), which is indicated in the diagram by high and low voltage.



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

Hinweise. Dies ist ein Produkt für Umgebung A. In Haushaltsumgebung kann dieses Gerät unerwünschte Funkstörungen verursachen; in diesem Fall kann der Anwender verpflichtet sein, angemessene Maßnahmen durchzuführen.

Notice. Ce produit a été conçu pour environnement A. L'utilisation de ce produit dans environnement B peut causer des perturbations électromagnétiques non désirées qui, dans ce cas, peuvent obliger l'utilisateur à prendre des mesures d'atténuation appropriées.

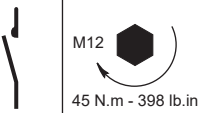
Obs. Den här produkten har konstruerats för miljöklass A. Användning av produkten i miljöklass B kan förorsaka oönskade elektromagnetiska störningar och i så fall krävs att användaren vidtar nödvändiga åtgärder.

Avvertenza. Questo prodotto è stato progettato per l'ambiente A. L'uso di questo prodotto nell'ambiente B può provocare disturbi elettromagnetici indesiderati, nel qual caso l'utilizzatore può dover prendere adeguate misure per loro attenuazione.

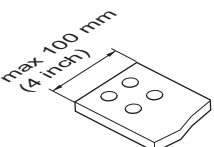
Nota. Este producto ha sido diseñado para ambientes A. El uso de este producto en ambientes B puede causar perturbaciones electromagnéticas no deseadas, en tal caso el usuario tendrá que tomar las medidas de mitigación adecuadas.

警告! 本产品适用于环境 A, 在环境 B 中使用本产品会产生有害电磁干扰, 在此情况下用户需采取适当防护措施。

Замечание. Устройство разработано для применения в средах категории A. Применение в средах категории B может привести к возникновению нежелательных электромагнитных помех. В этом случае могут потребоваться дополнительные меры защиты от помех.




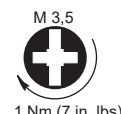
M12  
45 N.m - 398 lb.in



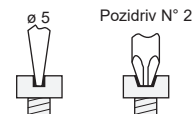
max 100 mm  
(4 inch)

**According to UL 60947- 4 - 1**  
 GAF1650: Use terminal kit K7TK, wire 4/0 AWG - 500 kcmil, Cu 75° C only, 375 in - lb.  
 GAF2050: At 2100A 1000V DC, use copper bars each of minimum four busbars per terminal 2 1/2 inch(width) by 1/4 inch (thickness). Three poles connected in series.  
 All contactors: \* Designed for max 40° C surround temperature.







M 3.5  
1 Nm (7 in. lbs)



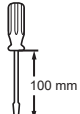
ø 5 Pozidriv N° 2



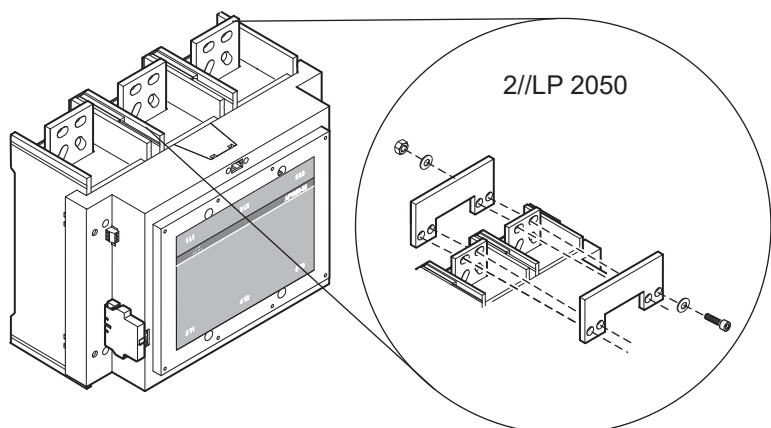
2 x 1 ..... 2,5 mm<sup>2</sup>  
 2 x 0,75 ..... 2,5 mm<sup>2</sup>  
 Cu 75°C



/ > 3,5 mm, L < 8 mm



100 mm

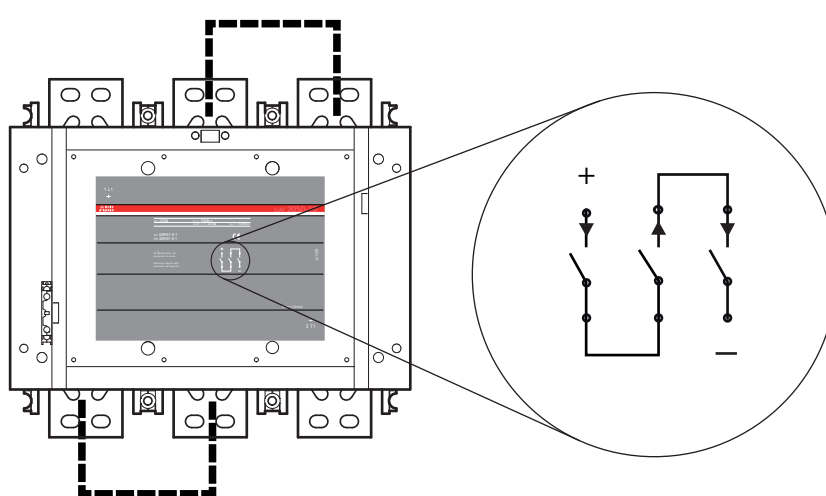


2//LP 2050

For series connection of contactor poles with LP connection strips LP2050, use the derated current according to this table.

Maximum continuous current with 2//LP2050 connection strips per pole.

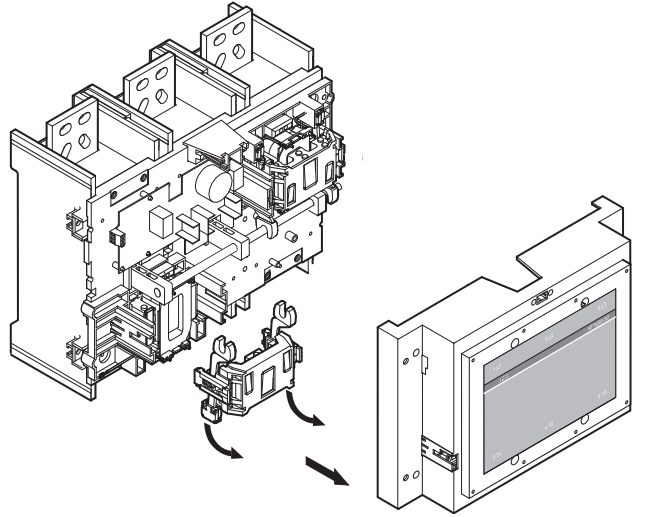
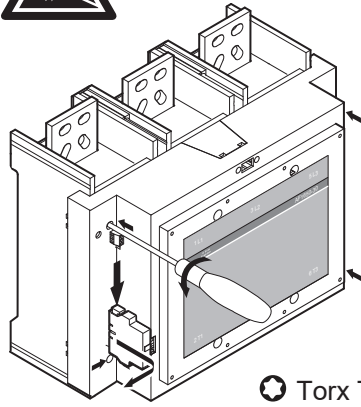
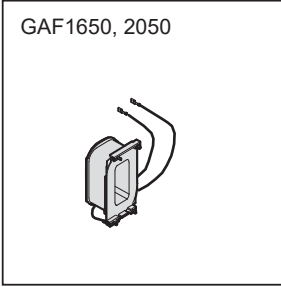
Contactor	le_max
(G)AF1650	1350 A
(G)AF2050	1650 A



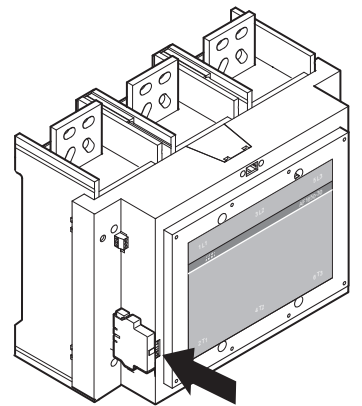
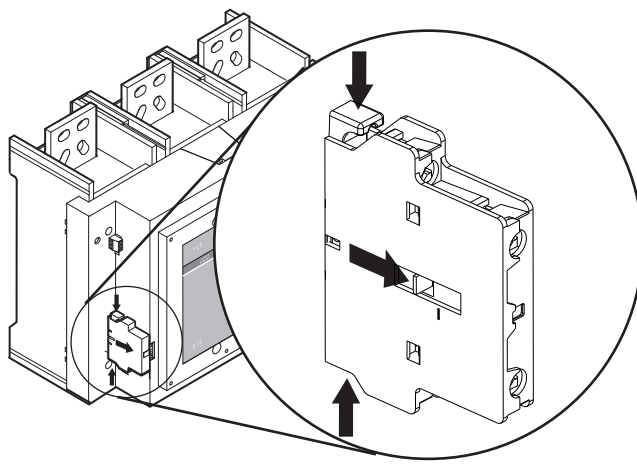
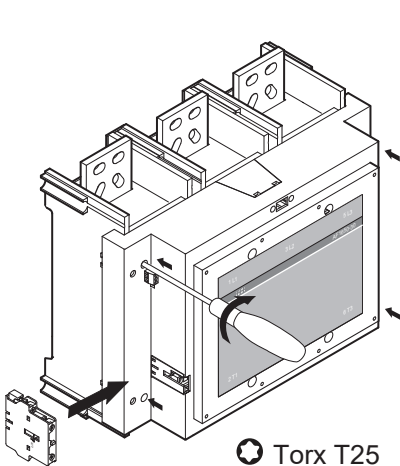
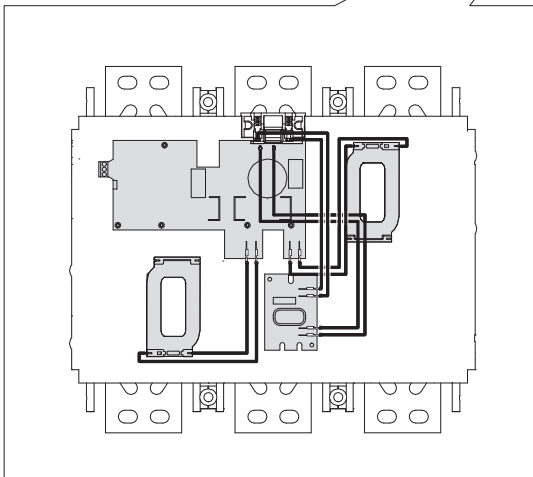
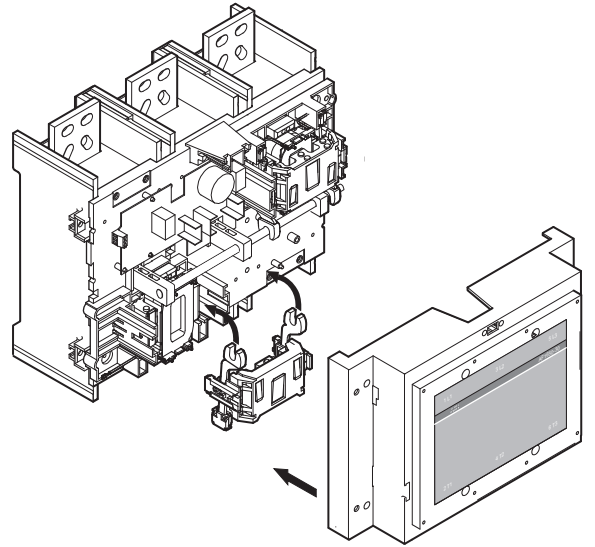
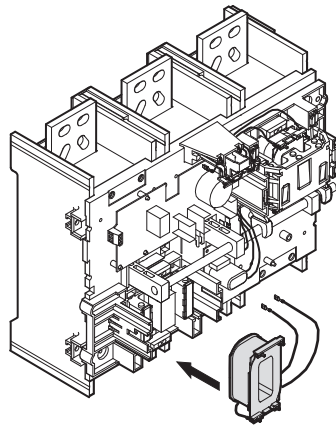
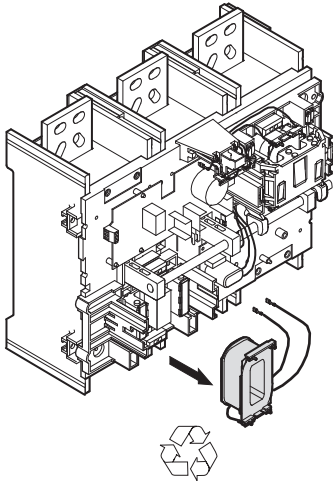
For series connection of contactor poles, with user specific connections:


To minimize terminal temperatures, length of connection should be at least 0,5m / pole.

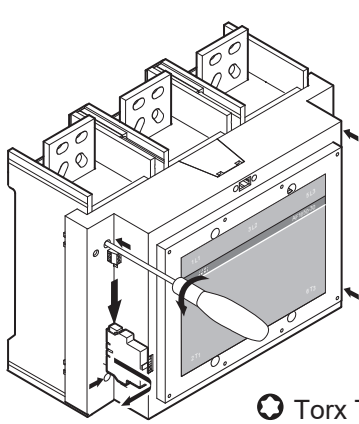
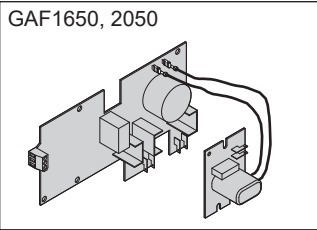
Use connection bars/cables dimensions acc. to brochure 1SFC101004B0201, or main catalogue.



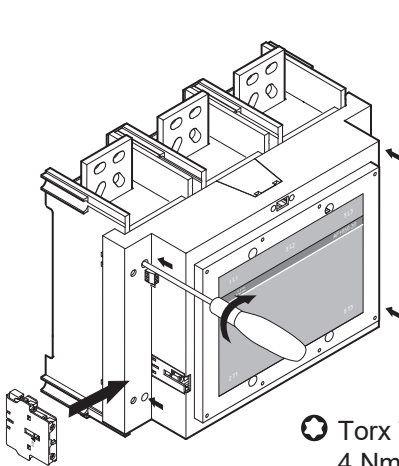
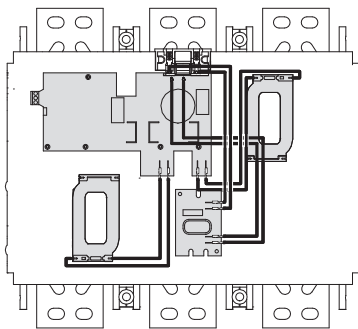
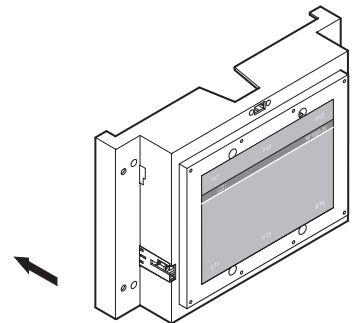
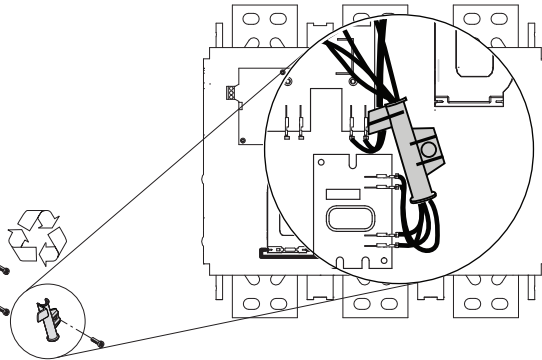
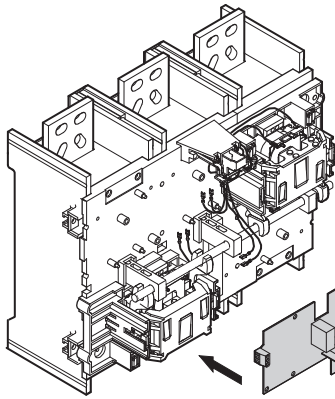
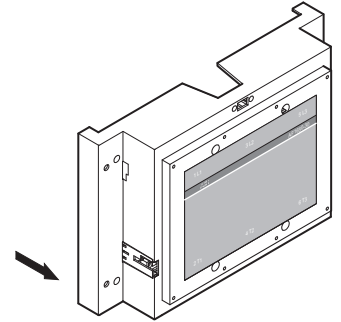
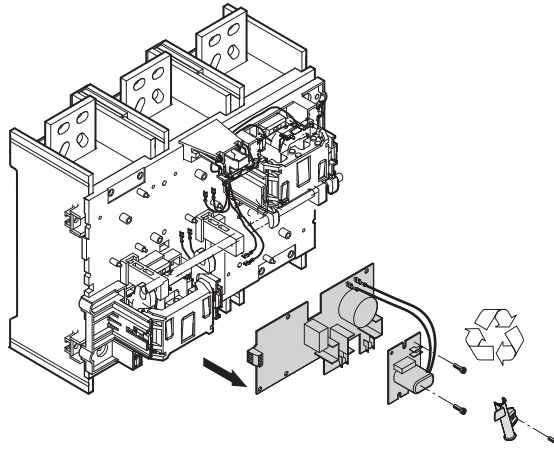
 Torx T25



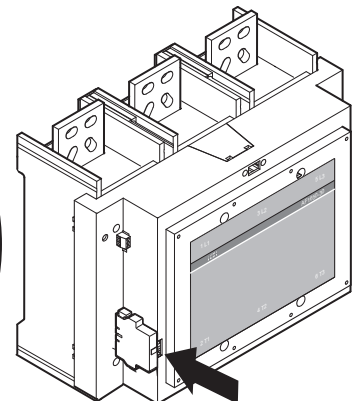
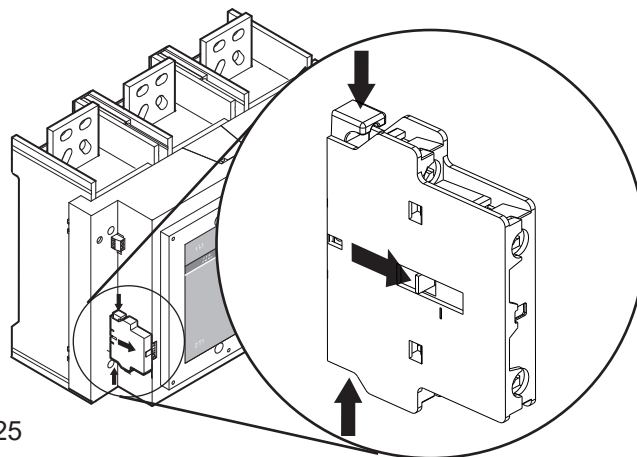
 Torx T25  
4 Nm

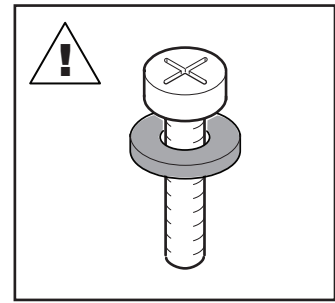
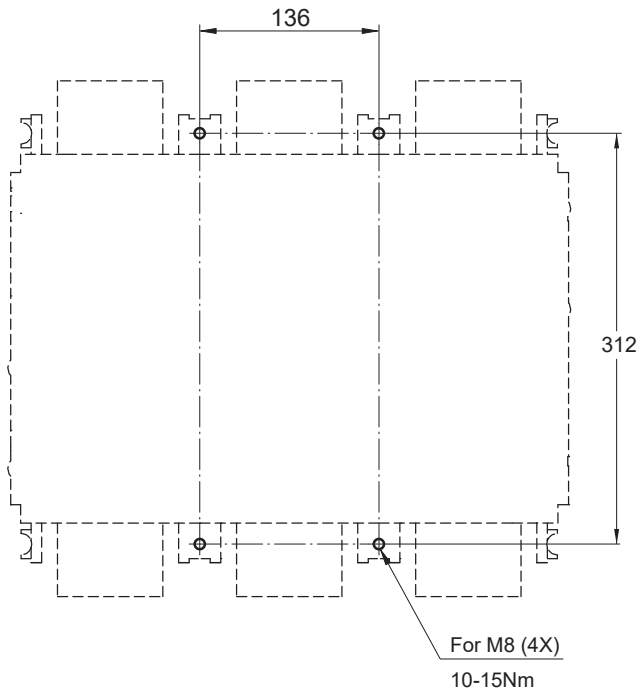


Torx T25

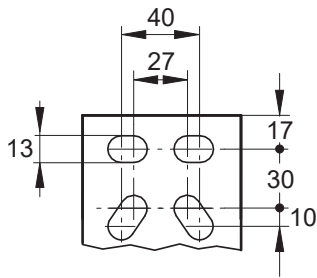


Torx T25  
4 Nm





GAF 1650



GAF 2050

