SAFETY INSTRUCTIONS

MO165, MO165-B
HKF1, HK1/SK1, UA1/AA1, KA1
Manual motor starters magnetic only and accessories

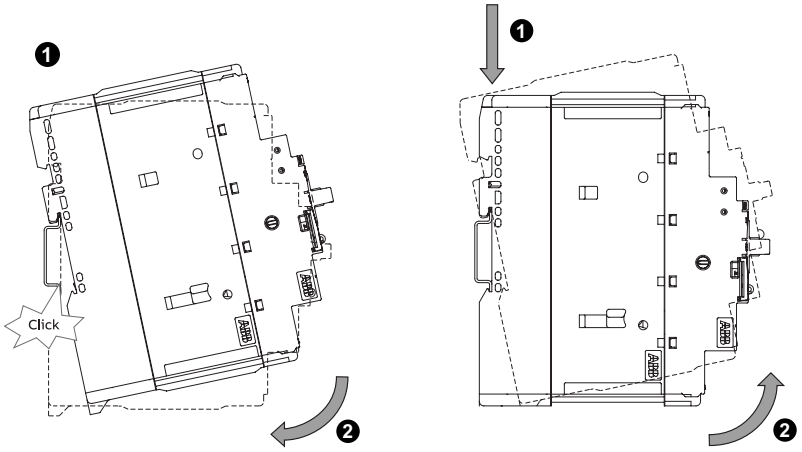
Doc.no. 2CDC131082M6801 P (03/26)



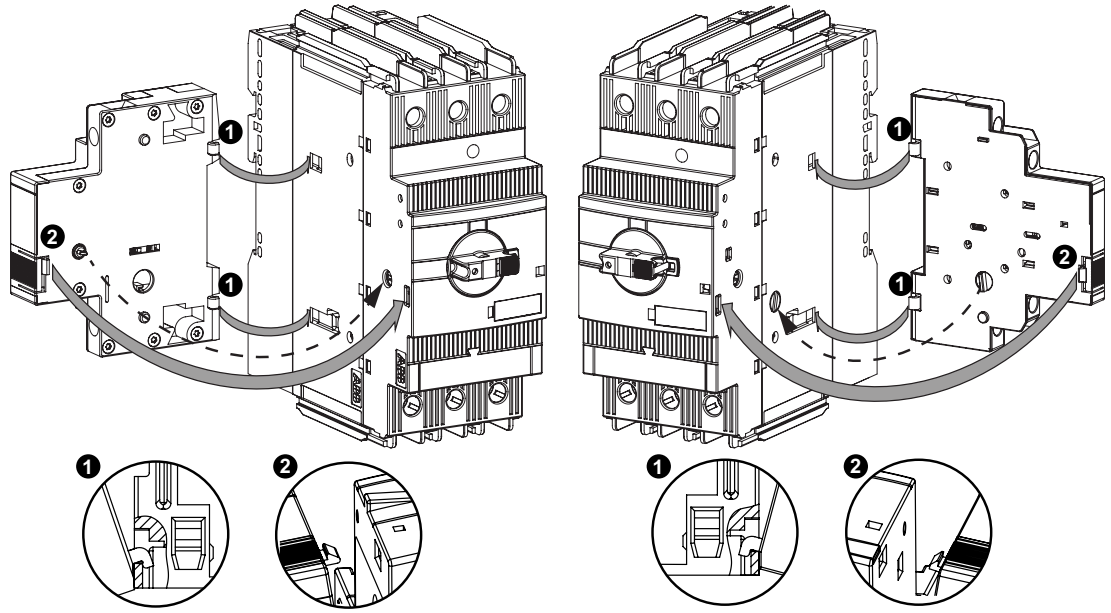
ar	تحذير: جهد كهربائي خطر! راجع تعليمات التشغيل. افصل الكهرباء وقم بتأمينها قبل العمل في هذا الجهاز تنبيه! يجب عدم التركيب إلا من خلال شخص على دراية بمجال التقنية الكهربائية .
bg	Предупреждение: Опасно напрежение! Вижте инструкциите за работа. Изключете и блокирайте захранването преди. да работите с 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 installationsinstruktioner. 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 Installationsanleitung. 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 installation 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 instalación. 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 asennusohje. atkaise virta ja estä virran kytkeminen lukituksella ennen töiden aloittamista. Huomio! Asennuksen saa suorittaa vain henkilö, jolla on kokemusta sähkötekniikasta.
fr	Avertissement: Tension dangereuse! Consultez les consignes d'installation. 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.
hr	Upozorenje: Opasan napon! Pogledajte upute za ugradnju. Odspojite i isključite struju prije rada na ovom uređaju. Pažnja! Ugradnja je dopuštena samo osobama stručnim u području elektrotehnike.
hu	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.
lt	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 installatie-instructies. 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 instalacji. 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 instalação. 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	Предупреждение: Опасное электрическое напряжение! Обратитесь к инструкциям по монтажу. Отключите электропитание и обеспечьте безопасность перед началом работ. Внимание! Монтаж должен 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! Namestitev 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! Montaj talimatlarına bakın. Bu cihaz üzerinde çalışmadan önce elektriği kesin ve kilitleyin. Dikkat! Yalnızca elektroteknik uzmanlığa 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。

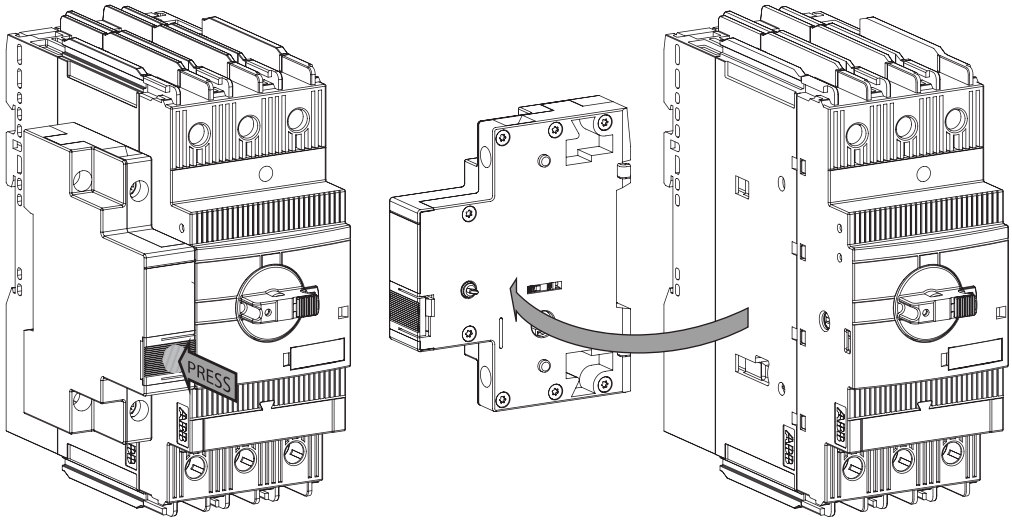
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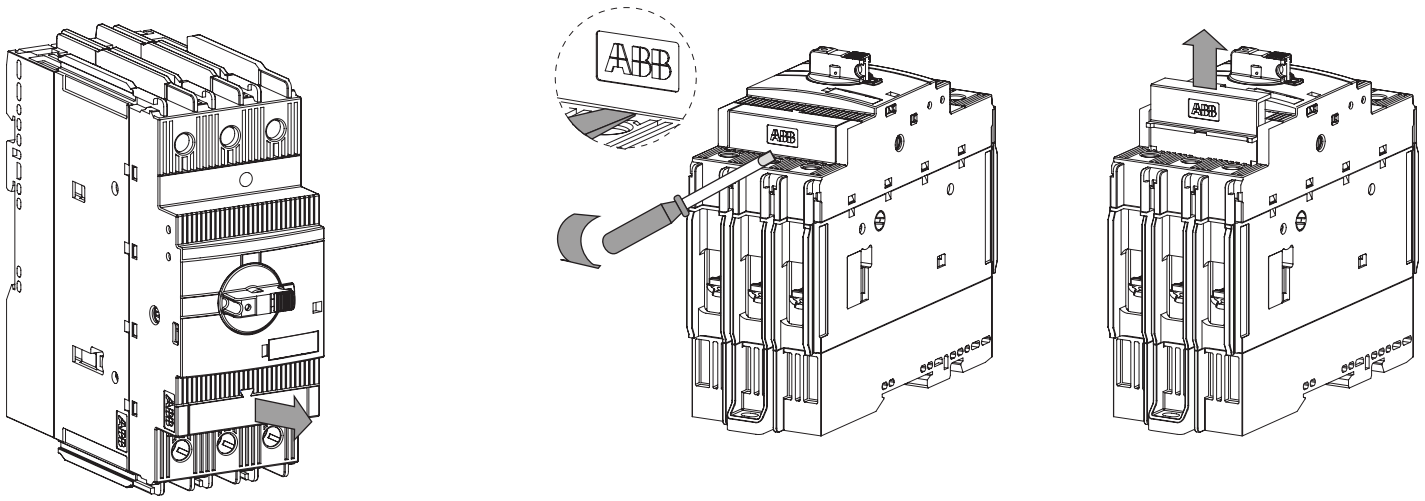
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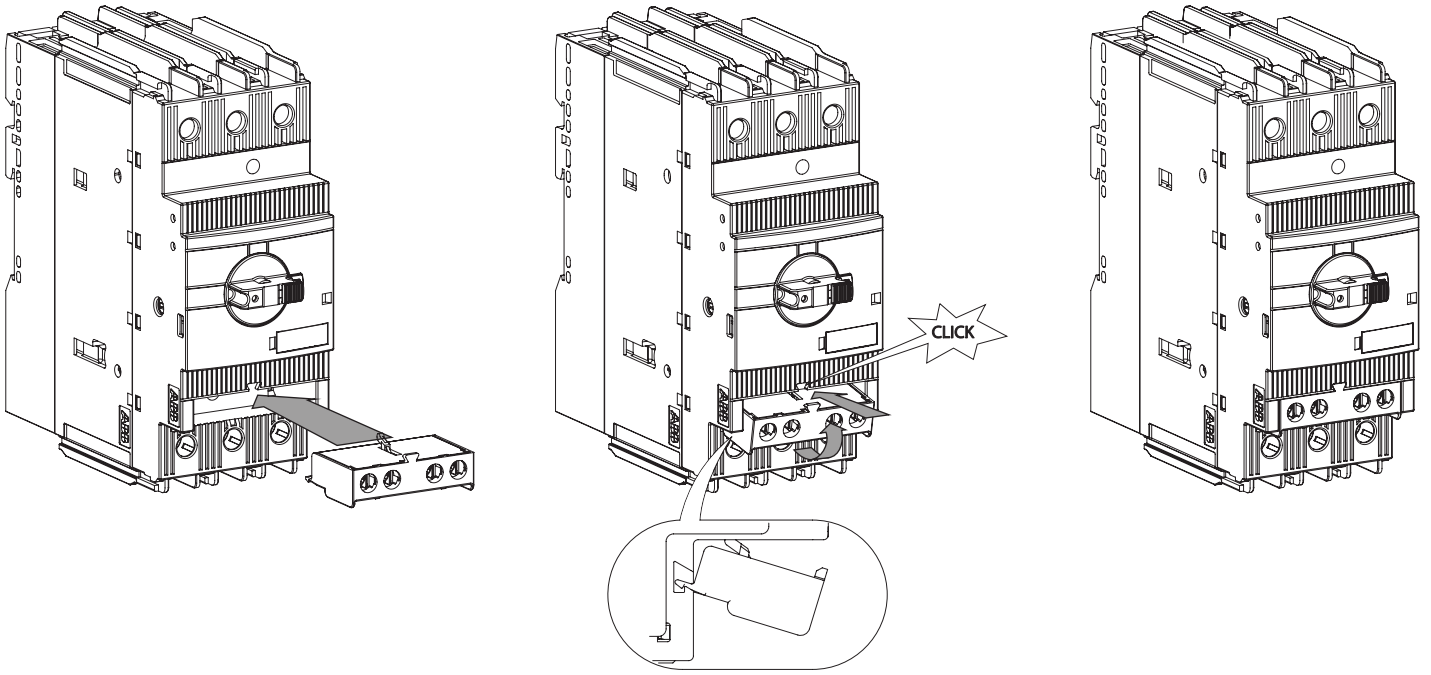
MS165/ MS165-B + HK1/SK1-.. + UA1/AA1-..

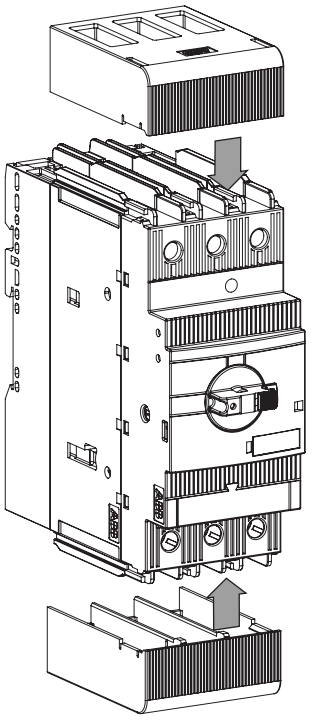


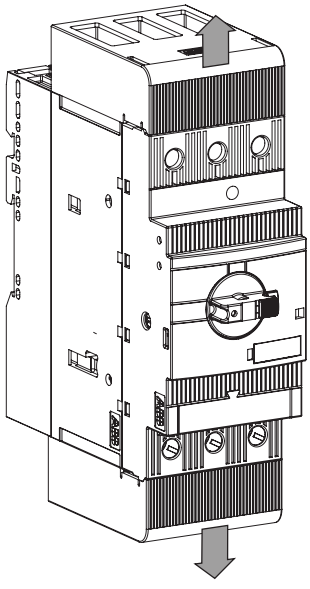


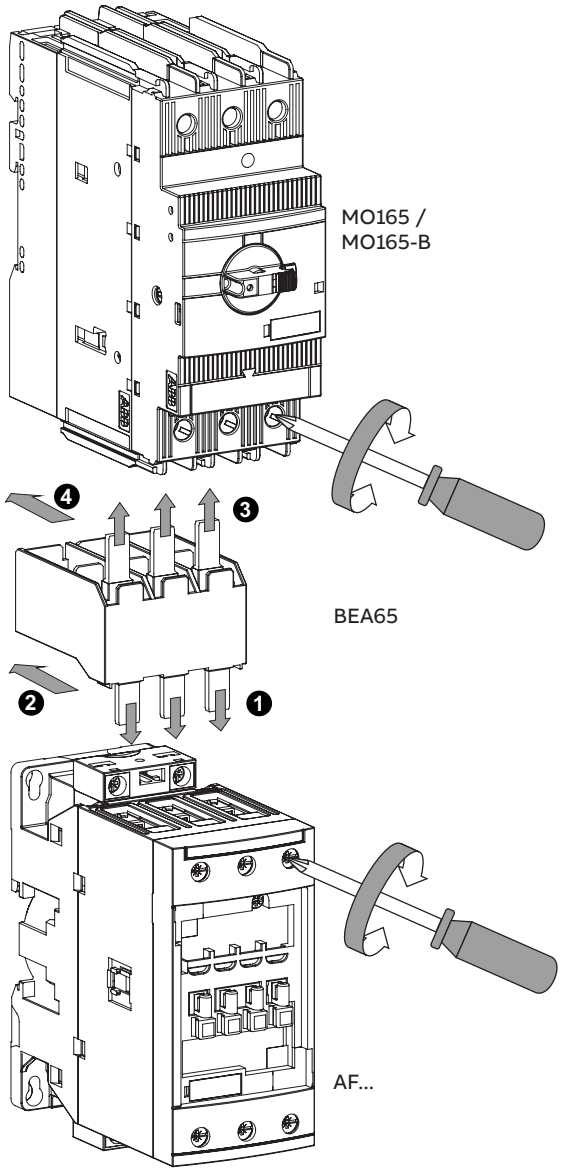


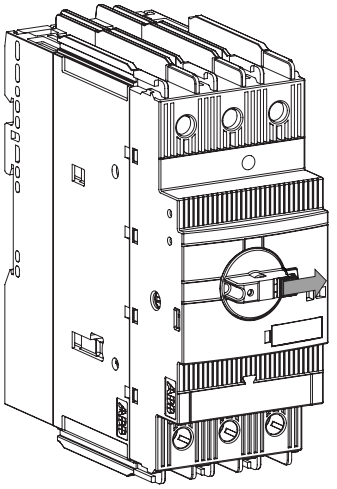
MO165 / MO165-B + HKF1

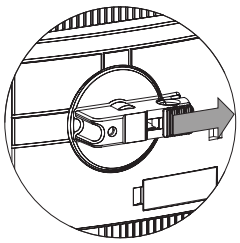


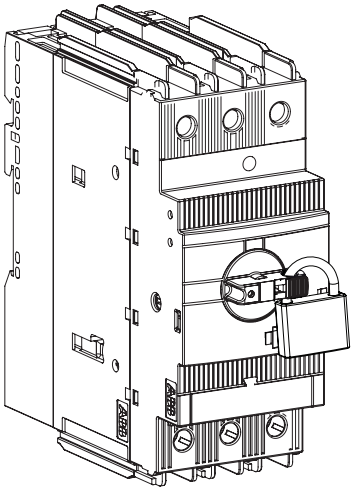


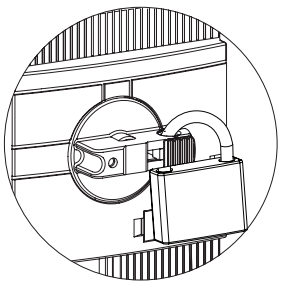




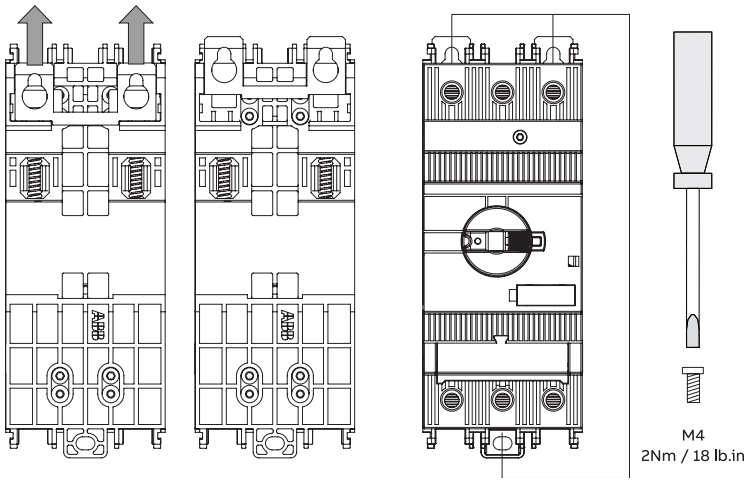


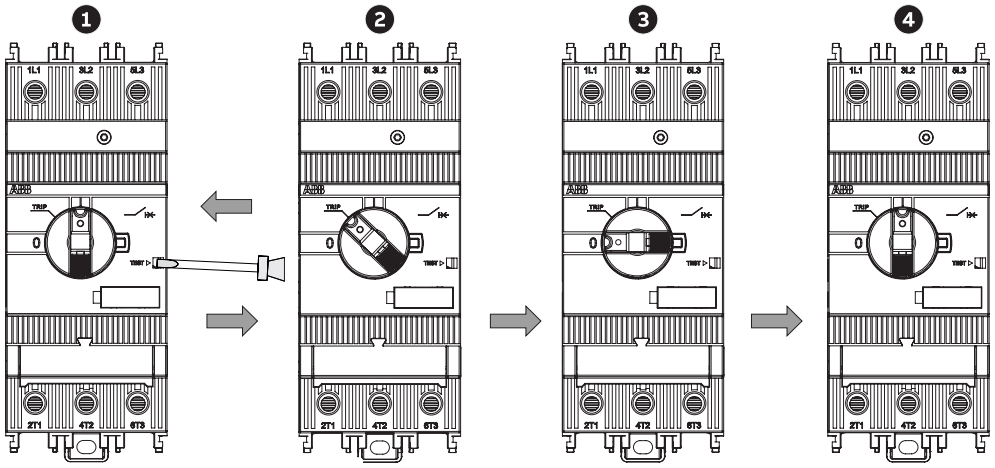


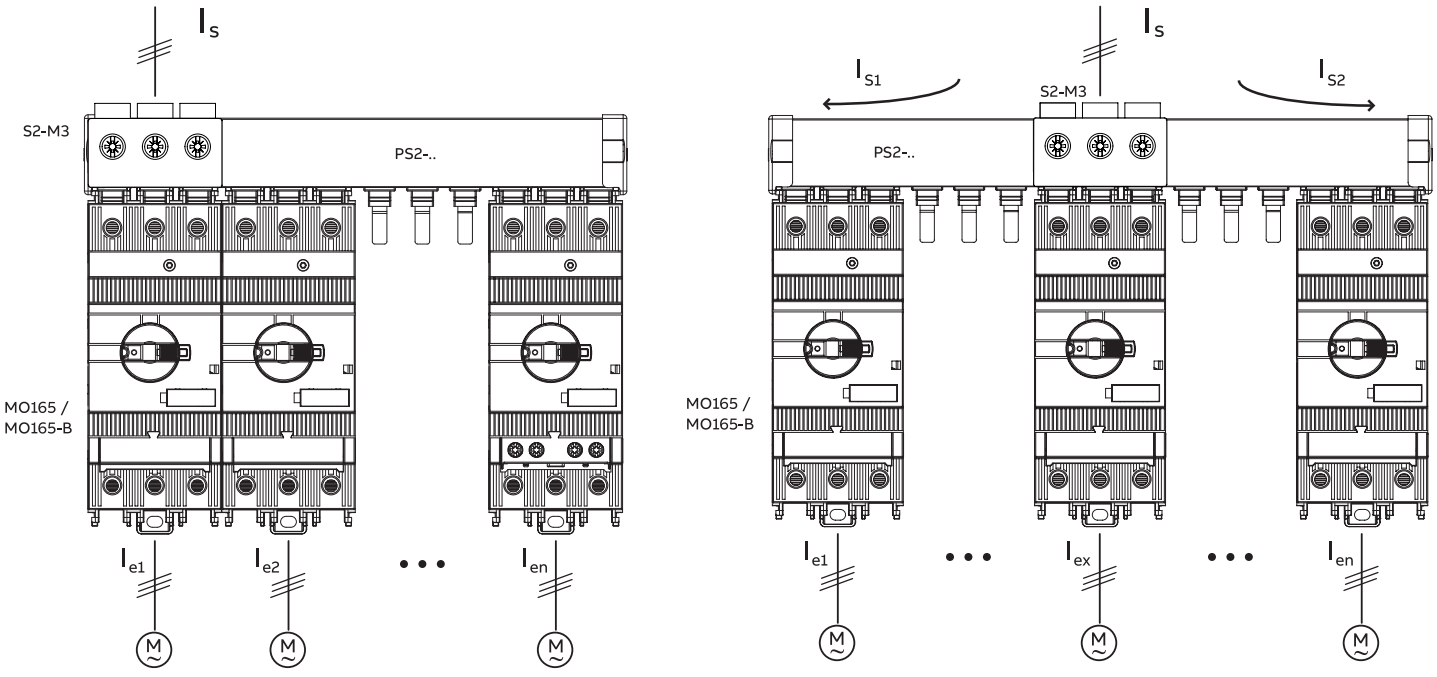




Ø 2.5 ... 4.5mm
Ø 0.1 ... 0.18 in





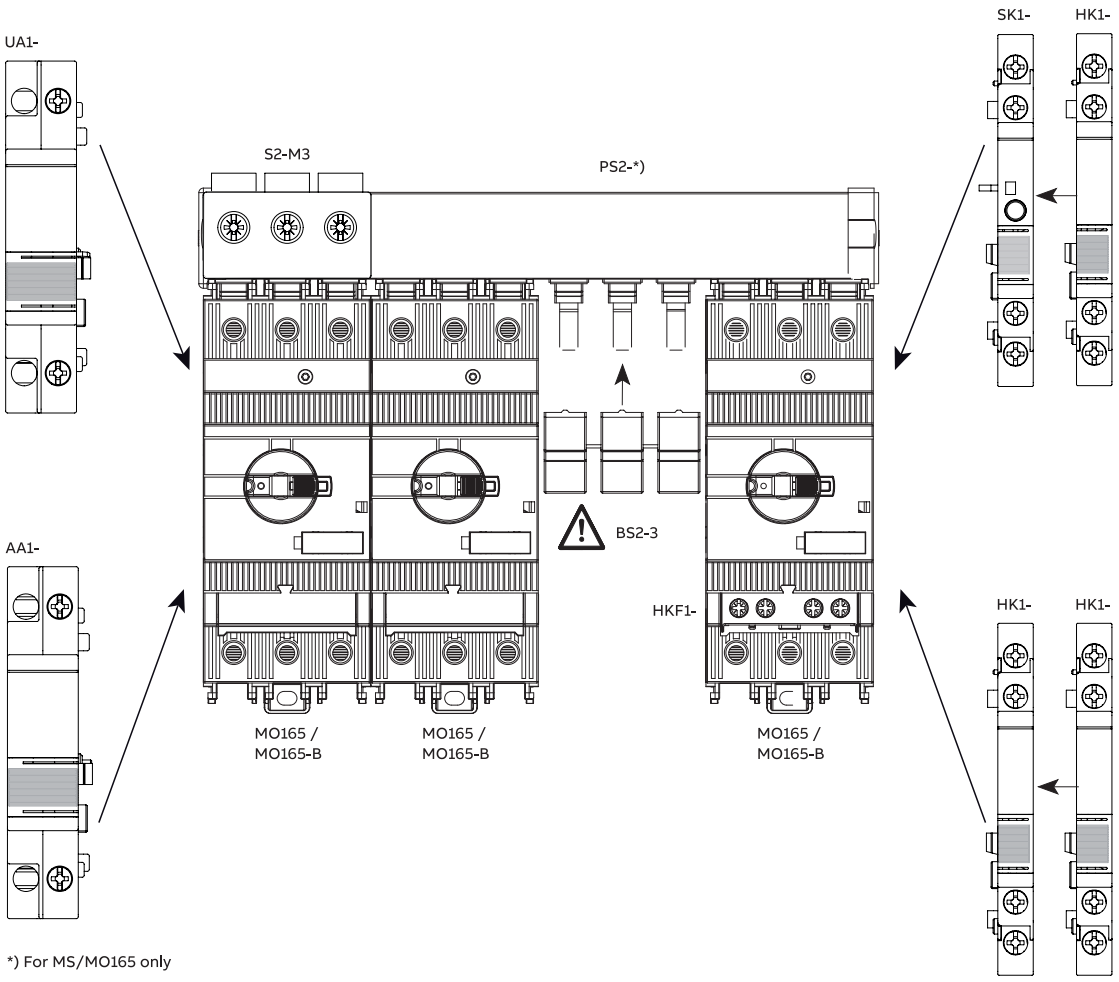


$$I_{e,S1-\ldots} \geq I_S = \sum_{i=1}^{n} I_{ei} = I_{e1} + \ldots + I_{en} \quad !$$

$$I_{e,PS1-\ldots} \geq I_S = \sum_{i=1}^{n} I_{ei} = I_{e1} + \ldots + I_{en} \quad !$$

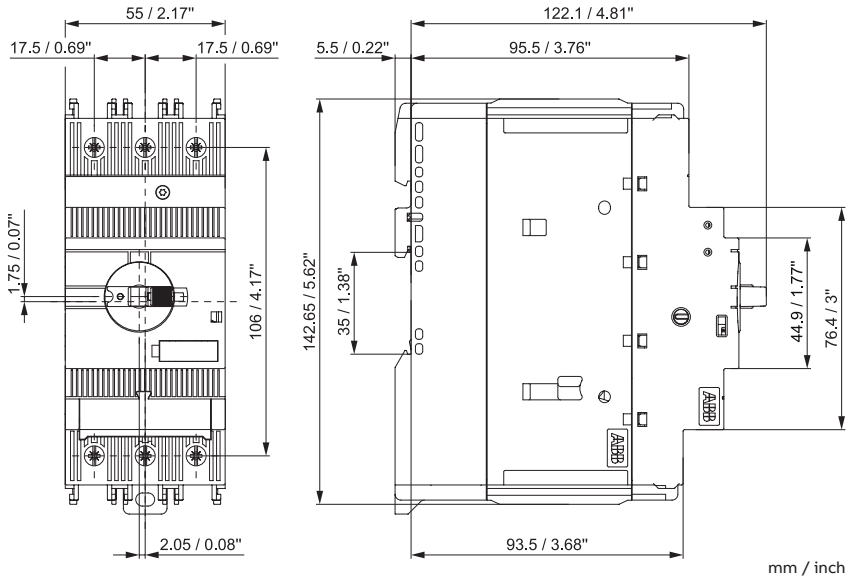
$$I_{e,S1-\ldots} \geq I_S = I_{S1} + I_{S2} = \sum_{i=1}^{n} I_{ei} = I_{e1} + \ldots + I_{en} \quad !$$

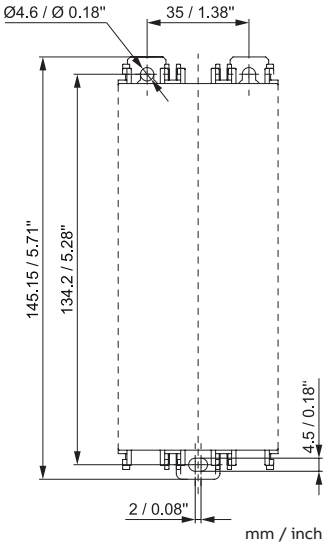
$$I_{e,PS1-\ldots} \geq I_S = I_{S1} + I_{S2} = \sum_{i=1}^{n} I_{ei} = I_{e1} + \ldots + I_{en} \quad !$$

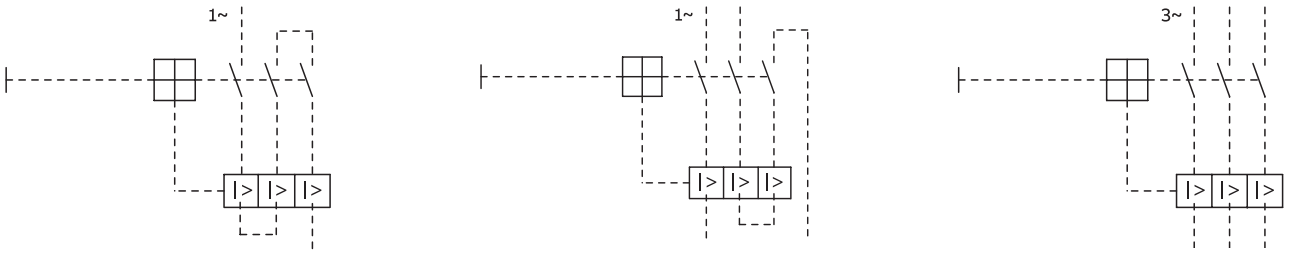


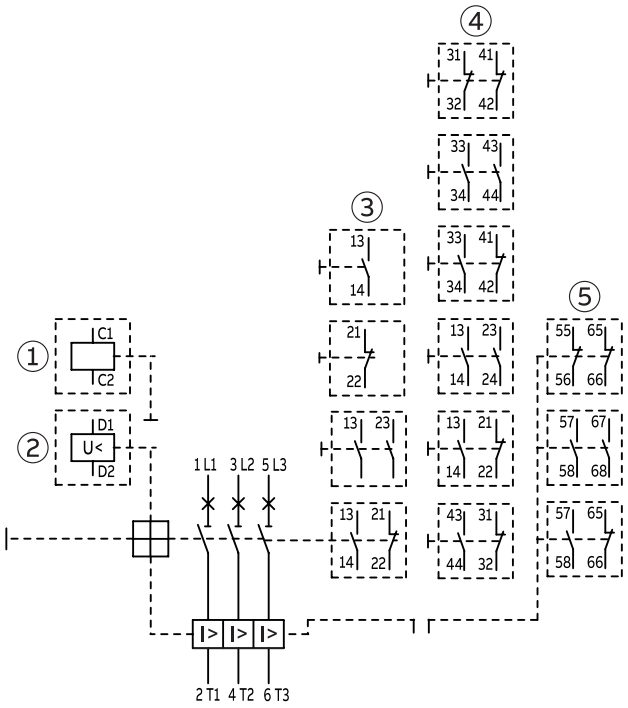
*) For MS/MO165 only

MO165 / MO165-B



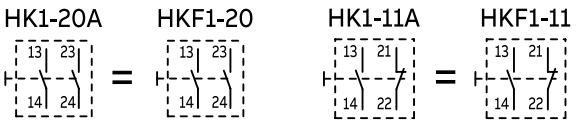






① AA1-
② UA1-
③ HKF1-
④ HK1-
⑤ SK1-

⚠ Same terminal markings for:



							mm
MO165 / MO165-B	M6 4 Nm / 35 lb.in	Ø 6.5 mm	Pozidrive No. 2	1/2 x 1 ... 50 mm² 1/2 x AWG 16 ... 0	1/2 x 1 ... 35 mm² 1/2 x AWG 16 ... 0	1/2 x 1 ... 35 mm²	16 mm
SK1, HK1, HKF1	M3 0.8 ... 1.2 Nm / 7 lb.in	Ø 5.5 mm		1/2 x 1 ... 1.5 mm²	1/2 x 0.75 ... 1.5 mm² 1/2 x AWG 16 ... 14	1/2 x 0.75 ... 1.5 mm²	8 mm
UA1, AA1	M3.5 0.8 ... 1.2 Nm / 7 lb.in	Ø 5.5 mm		1/2 x 1 ... 4 mm²	1/2 x 0.75 ... 2.5 mm² 1/2 x AWG 16 ... 14	1/2 x 0.75 ... 2.5 mm²	
S2-M3-50	M8 6 Nm / 54 lb.in		Hexagon 5	1 x 10 mm²	1 x 10 ... 50 mm² 1 x AWG 8 ... 0	1 x 10 ... 50 mm² 1 x AWG 8 ... 0	16 mm

c UL us LISTED

WARNING
When an overload or a fault current interruption occurs, circuits must be checked to determine the cause of the interruption.
When a fault condition exists, the current-carrying components should be examined and replaced when damaged, and the integral current sensors must be replaced to reduce the risk of fire or electric shock.
To maintain overcurrent, short-circuit, and ground-fault protection, the manufacturer's instructions for selection of overload and short-circuit protection must be followed to reduce the risk of fire or electric shock.
Suitable for installation in an enclosure with minimum dimemsions of 290 x 130 x 190 mm

AVERTISSEMENT
En cas d'intervention due à une surcharge ou un courant de défaut, les circuits doivent être vérifiés pour déterminer la cause de l'interruption.
En condition de défaut, les composants porteurs de courant devraient être examinés et remplacés au besoin, et les capteurs de courant intégrés doivent être remplacés afin de réduire le risque d'incendie et ou de choc électrique.
Pour assurer une protection continue contre les surintensités, les courts-circuits et les fuites à la terre, les instructions du fabricant relatives à la sélection d'une protection contre la surcharge et les courts-circuits doivent être respectées afin de réduire le risque d'incendie et ou de choc électrique.
Convient pour l'installation dans un coffret de minimum dimemsions of 290 x 130 x 190 mm

c UL us LISTED

When used with PS2-xx-125 busbars, suitable for installation in an enclosure with minimum dimensions:

Si utilisé avec un peigne PS2-xx-125, convient pour l'installation dans un coffret de dimensions minimum:

Type	Height (mm)	Width (mm)	Depth (mm)
PS2-2-0-125	280	165	195
PS2-3-0-125	280	248	195
PS2-4-0-125	280	330	195
PS2-2-2-125	280	219	195
PS2-3-2-125	280	329	195
PS2-4-2-125	280	438	195

Combination motor controller Type F, when used with AF contactor series and (optional) overload relays EF or TF series and optional connector BEAxx”

Combination Motor Controller Type F Type 1 coordination						
Type	480Y/277V [kA]	OL Relay	Contactor	600Y/347V [kA]	OL Relay	Contactor
MO165-16	65	EF19-18.9	AF09 ... AF38	50	EF19-18.9	AF09 ... AF38
MO165-20	65	EF45-30	AF26 ... AF38	50	EF45-30	AF26 ... AF38
MO165-25	65	EF45-30	AF26 ... AF38	50	EF45-30	AF26 ... AF38
MO165-32	65	EF45-45	AF26 ... AF38	50	EF45-45	AF26 ... AF38
MO165-42	65	EF65	AF40 ... AF65	30	EF65	AF40 ... AF65
MO165-54	65	EF65	AF40 ... AF65	30	EF65	AF40 ... AF65
MO165-65	65	EF65	AF40 ... AF65	30	EF65	AF40 ... AF65
MO165-73	50	EF96	AF80 ... AF96	-	-	-
MO165-80	50	EF96	AF80 ... AF96	-	-	-

Combination Motor Controller Type F Type 1 coordination						
Type	480Y/277V [kA]	OL Relay	Contactor	600Y/347V [kA]	OL Relay	Contactor
MO165-16	65	TF42	AF09 ... AF38	30	TF42	AF09 ... AF38
MO165-20	65	TF42	AF26 ... AF38	30	TF42	AF26 ... AF38
MO165-25	65	TF42	AF26 ... AF38	50	TF42	AF26 ... AF38
MO165-32	65	TF42	AF26 ... AF38	50	TF42	AF26 ... AF38
MO165-42	65	TF65	AF40 ... AF65	30	TF65	AF40 ... AF65
MO165-54	65	TF65	AF40 ... AF65	30	TF65	AF40 ... AF65
MO165-65	65	TF65	AF40 ... AF65	30	TF65	AF40 ... AF65
MO165-73	50	TF96	AF80 ... AF96	-	-	-
MO165-80	50	TF96	AF80 ... AF96	-	-	-

Combination Motor Controller Type F Type 2 coordination						
Type	480Y/277V [kA]	OL Relay	Contactor	600Y/347V [kA]	OL Relay	Contactor
MO165-73	50	EF96	AF80 ... AF96	-	-	-
MO165-80	50	EF96	AF80 ... AF96	-	-	-

Combination Motor Controller Type F Type 2 coordination						
Type	480Y/277V [kA]	OL Relay	Contactor	600Y/347V [kA]	OL Relay	Contactor
MO165-73	50	TF96	AF80 ... AF96	-	-	-
MO165-80	50	TF96	AF80 ... AF96	-	-	-

ABB AG – STOTZ-KONTAKT
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go.abb/contact

new.abb.com/low-voltage

Further information:

Revision
P

Revision date
2026-03-16

Document number
2CDC131082M6801

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