



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

**(de) Lebensgefahr durch elektrischen Strom!**

Nur Elektrofachkräfte und elektrotechnisch unterwiesene Personen dürfen die im Folgenden beschriebenen Arbeiten ausführen.

**(fr) Tension électrique dangereuse !**

Seules les personnes qualifiées et averties doivent exécuter les travaux ci-après.

**(es) ¡Corriente eléctrica! ¡Peligro de muerte!**

El trabajo a continuación descrito debe ser realizado por personas cualificadas y advertidas.

**(it) Tensione elettrica: Pericolo di morte!**

Solo persone abilitate e qualificate possono eseguire le operazioni di seguito riportate.

**(zh) 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。

**(ru) Электрический ток! Опасно для жизни!**

Только специалисты или проинструктированные лица могут выполнять следующие операции.

**(nl) Levensgevaar door elektrische stroom!**

Uitsluitend deskundigen in elektriciteit en elektrotechnisch geïnstrueerde personen is het toegestaan, de navolgend beschreven werkzaamheden uit te voeren.

**(da) Livsfare på grund af elektrisk strøm!**

Kun uddannede el-installatører og personer der er instruerede i elektrotekniske arbejdsopgaver, må udføre de nedenfor anførte arbejder.

**(el) Προσοχή, κίνδυνος ηλεκτροπληξίας!**

Οι εργασίες που αναφέρονται στη συνέχεια θα πρέπει να εκτελούνται μόνο από ηλεκτρολόγους και ηλεκτροτεχνίτες.

**(pt) Perigo de vida devido a corrente eléctrica!**

Apenas electricistas e pessoas com formação electotécnica podem executar os trabalhos que a seguir se descrevem.

**(sv) Livsfara genom elektrisk ström!**

Endast utbildade elektriker och personer som undervisats i elektroteknik får utföra de arbeten som beskrivs nedan.

**(fi) Hengenvaarallinen jännite!**

Vain pätevät sähköasentajat ja opastusta saaneet henkilöt saavat suorittaa seuraavat työt.

**(cs) Nebezpečí úrazu elektrickým proudem!**

Níže uvedené práce směřjí provádět pouze osoby s elektrotechnickým vzděláním.

**(et) Eluohhtlik! Elektrilöögioht!**

Järgnevalt kirjeldatud töid tohib teostada ainult elektriala spetsialist või elektrotehnilise instrueerimise läbinud personal.

**(hu) Életveszély az elektromos áram révén!**

Csak elektromos szakemberek és elektrotechnikában képzett személyek végezhetik el a következőkben leírt munkákat.

**(lv) Elektriskā strāva apdraud dzīvību!**

Tālāk aprakstītos darbus drīkst veikt tikai elektrospeciālisti un darbam ar elektrotehnikām iekārtām instruētās personas!

**(lt) Pavojus gyvybei dėl elektros srovės!**

Tik elektrikai ir elektrotechnikos specialistai gali atlikti žemiau aprašytus darbus.

**(pl) Porażenie prądem elektrycznym stanowi zagrożenie dla życia!**

Opisane poniżej prace mogą przeprowadzać tylko wykwalifikowani elektrycy oraz osoby odpowiedzialnie poinstruowane w zakresie elektrotechniki.

**(sl) Življenjska nevarnost zaradi električnega toka!**

Spodaj opisana dela smejo izvajati samo elektrostrokovnjaki in elektrotehnično poučene osebe.

**(sk) Nebezpečenstvo ohrozenia života elektrickým prúdom!**

Práce, ktoré sú nižšie opísané, smú vykonávať iba elektroodborníci a osoby s elektrotechnickým vzdelaním.

**(bg) Опасност за живота от електрически ток!**

Операциите, описани в следващите раздели, могат да се извършват само от специалисти-електротехници и инструктиран електротехнически персонал.

**(ro) Atenție! Pericol electric!**

Toate lucrările descrise trebuie efectuate numai de personal de specialitate calificat și de persoane cu cunoștințe profunde în electrotehnică.

**(hr) Opasnost po život uslijed električne struje!**

Radove opisane u nastavku smiju obavljati samo stručni električari i osobe koje su prošle elektrotehničku obuku.

**(tr) Elektrik akımı! Hayati tehlike!**

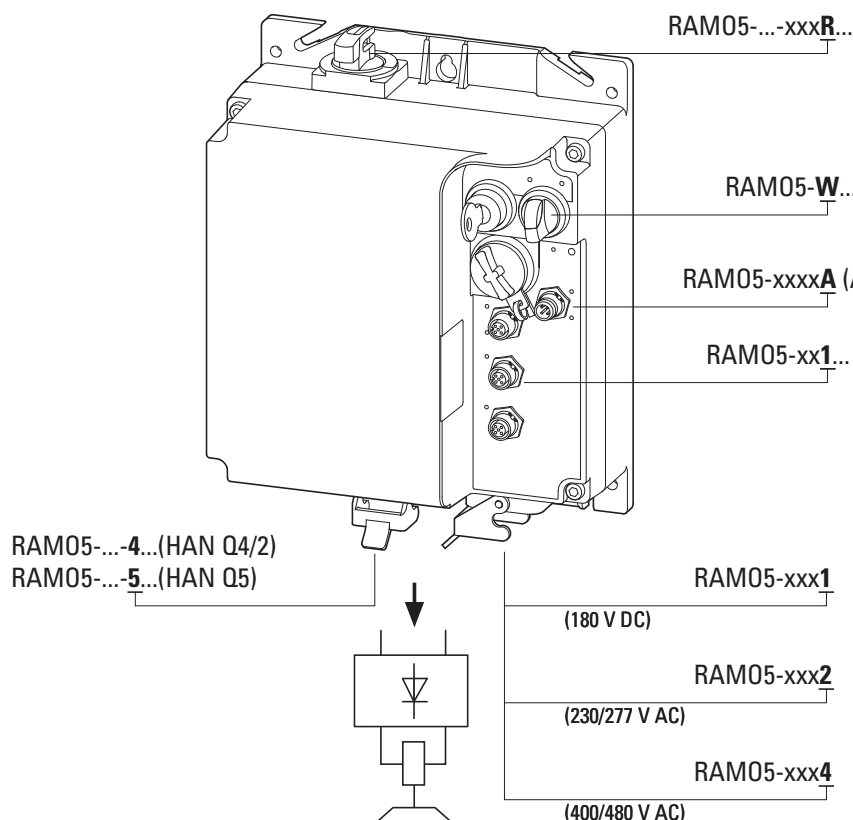
Aşağıdaki işlemleri yalnızca kalifiye veya eğitimli kişiler gerçekleştirebilir.

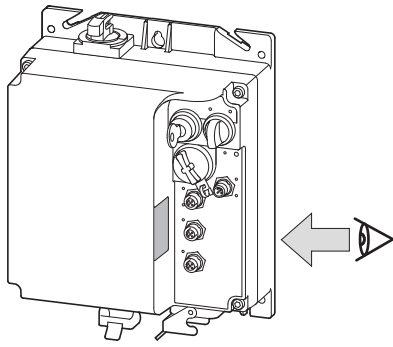
**(uk) Електричний струм! Небезпечно для життя!**

Виконувати означені далі операції дозволяється тільки кваліфікованим особам, що пройшли інструктаж.

**(ar) تحذير! تيار كهربائي! خطر موت! لا تتم أعمال الصيانة و التركيب إلا من قبل العاملين المدربين!**

## RAM05-xxxxA

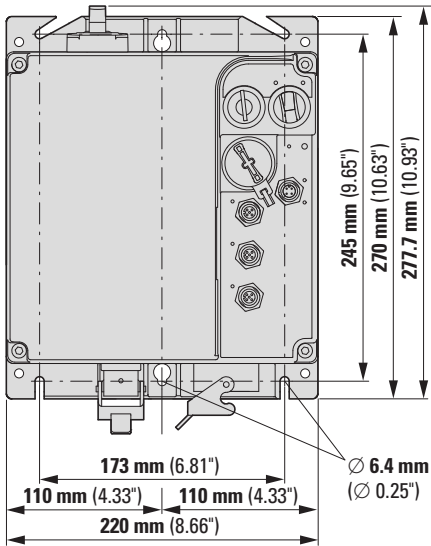




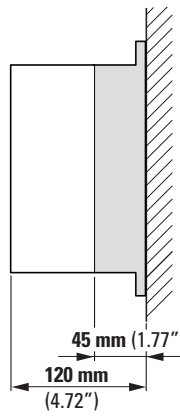
**RAM05-W 2 0 2 A31- 4 12 R S1**

- 0 = No Repair switch
- R = Repair switch
  
- 4 = HAN Q4/2
- 5 = HAN Q5
  
- A31 ASI-3 Profile S-7.4
- A32 ASI-3 Profile S-7.AE
  
- 0 = No atctuation for motor brakes
- 1 = 180 V DC control voltage for external motor brakes
- 2 = 230/277 V AC control voltage for external motor brakes
- 4 = 400/480 V AC control voltage for external motor brakes
  
- 0 = No control output
- 1 = Actuator output
  
- 2 = 2 Sensor inputs
  
- D = DOL starter
- W = Reversing starter

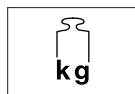
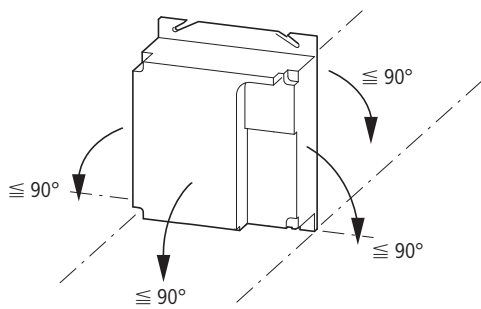
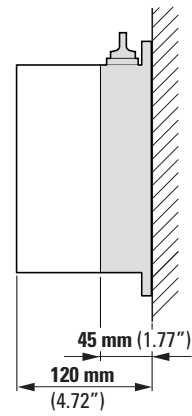
**RAM05-...-xxx0xx**



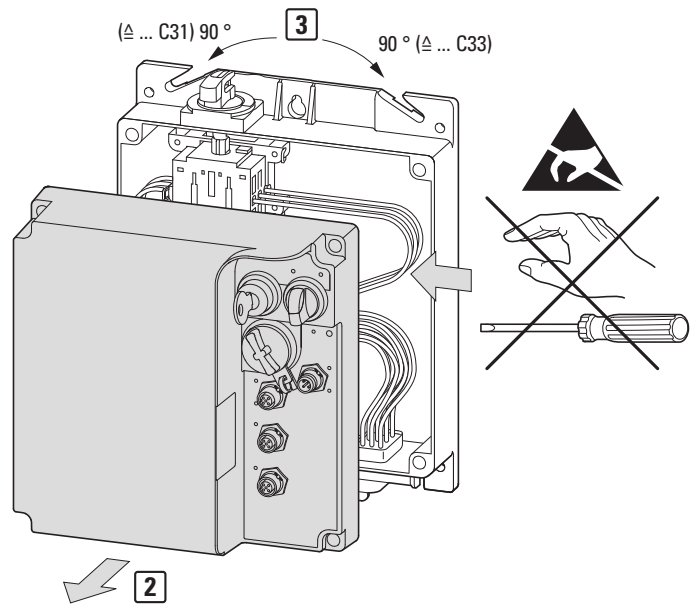
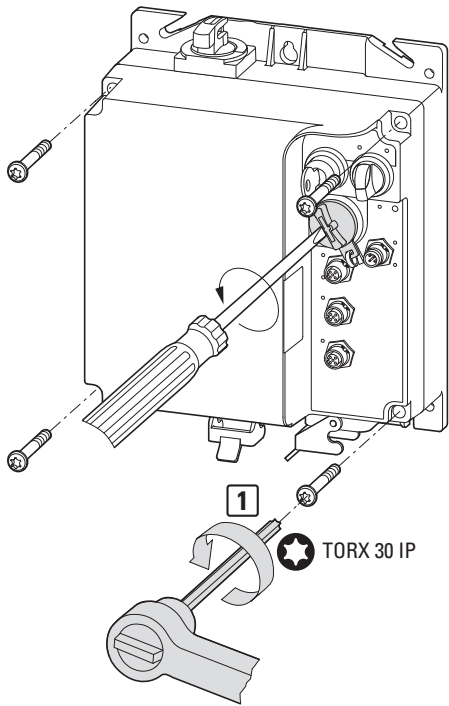
**RAM05-...-xxx0xx**



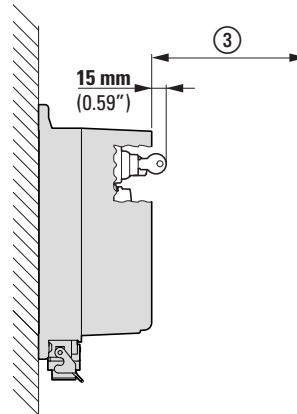
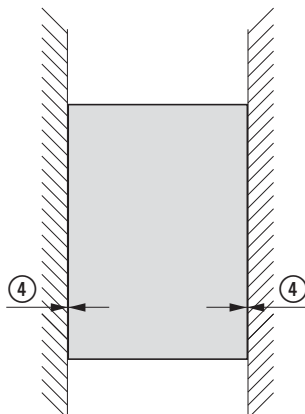
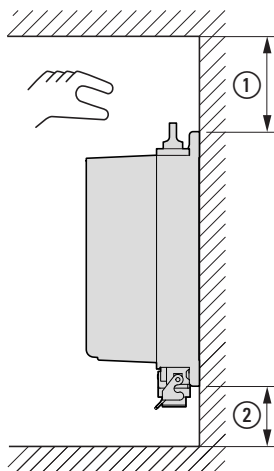
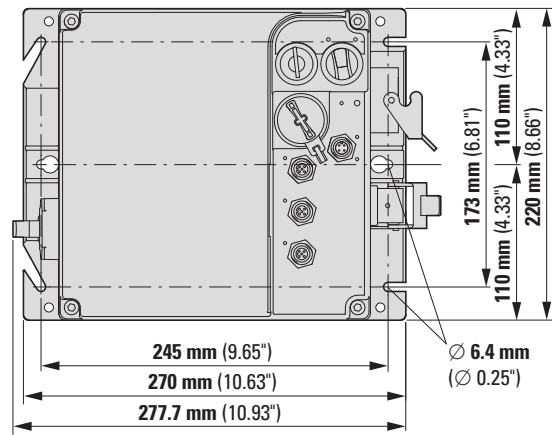
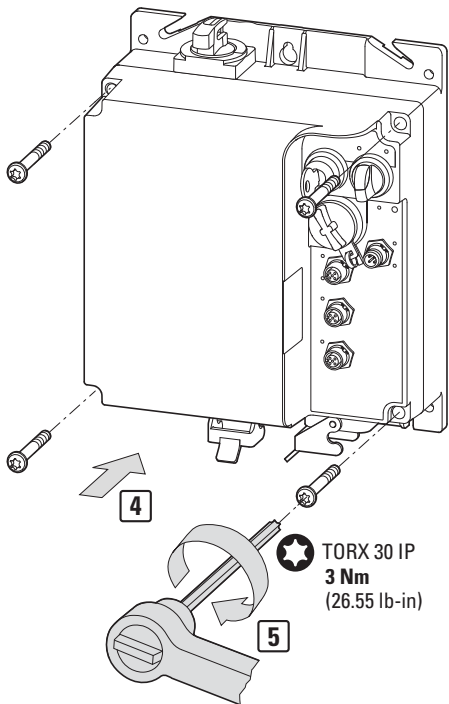
**RAM05-...-xxxRxx**



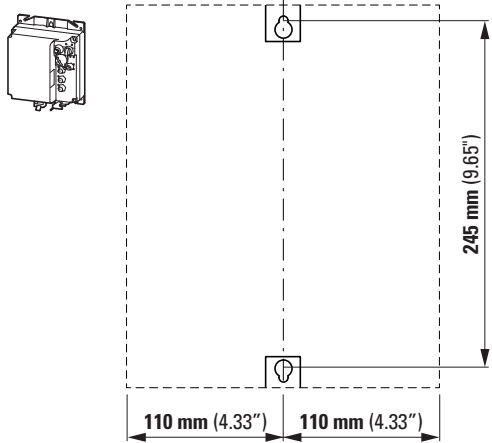
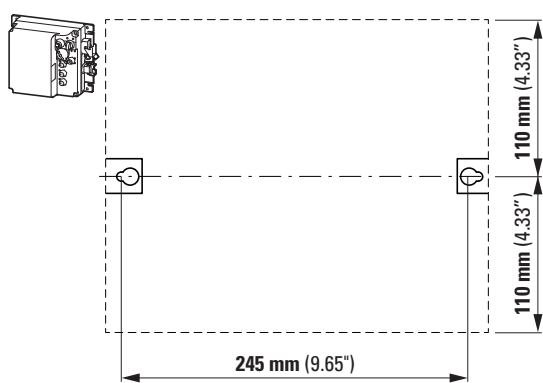
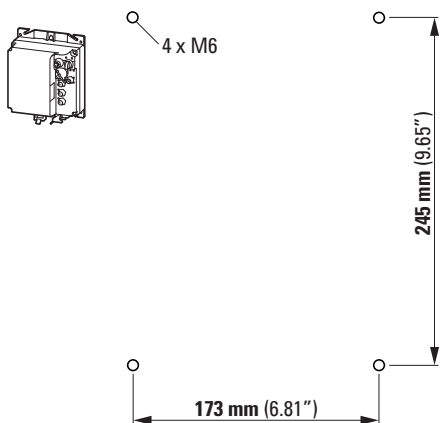
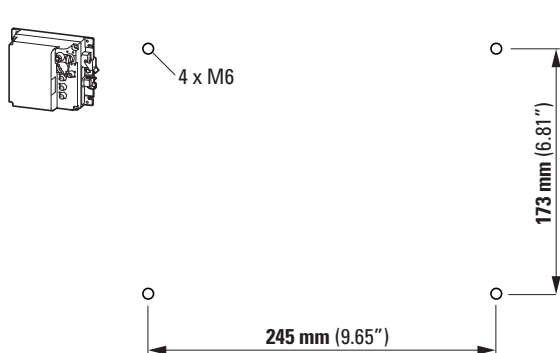
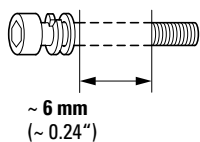
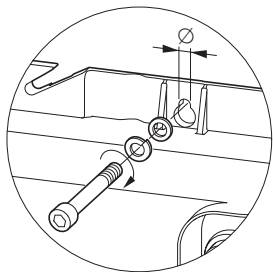
RAM05-xx0xxxx-xxx0xx	1.63
RAM05-xx1xxxx-xxx0xx	1.64
RAM05-xx0xxxx-xxxRxx	1.8
RAM05-xx1xxxx-xxxRxx	1.81



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- ① ≅ 150 mm (≅ 5.91")
- ② ≅ 100 mm (≅ 3.94")
- ③ ≅ 20 mm (≅ 0.79")
- ④ ≅ 0

**1a****1a****1b****1b****2**

**1.3 Nm**  
(11.51 lb-in)



6.2 mm (0.24")



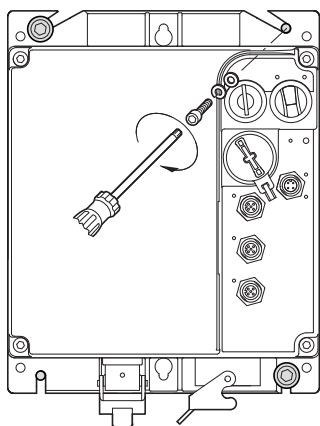
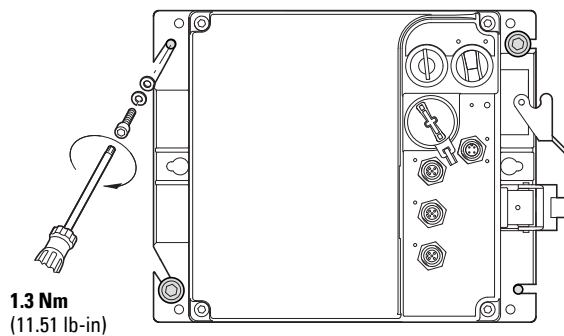
2 x / 4 x M6



4 x DIN 127, M6



4 x DIN 125, M6

**3****3**

**en** **NOTICE**  
Connect only in voltage-free state!

**el** **ΕΠΑΓΓΡΥΠΝΗΣΗ**  
Συνδέστε μόνο όταν δεν επικρατεί τάση!

**pl** **UWAGA**  
Podłączyć zawsze po uprzednim odłączeniu od zasilania elektrycznego!

**de** **ACHTUNG**  
Nur im spannungsfreien Zustand anschließen!

**pt** **ADVERTÊNCIA**  
Ligar apenas com a tensão desligada!

**sl** **POZOR**  
Napravo priključite le, ko ni pod napetostjo!

**fr** **ATTENTION**  
Raccordez l'appareil uniquement hors tension !

**sv** **OBSERVERA**  
Får endast anslutas i spänningsfritt tillstånd!

**sk** **UPOZORNENIE**  
Naprájat' len v stave bez napätia!

**es** **CUIDADO**  
¡Conectar únicamente en estado sin tensión!

**fi** **ILMOITUS**  
Kytke vain jännitteettömässä tilassa!

**bg** **ПРЕДУПРЕЖДЕНИЕ**  
Свързвайте само, когато уреда не е под напрежение!

**it** **AVVISO**  
Collegare solo in assenza di tensione!

**cs** **UPOZORNĚNÍ**  
Připojíte jen při zcela odpojeném napájení!

**ro** **ATENȚIE**  
Conectați doar când aparatul nu se află sub tensiune!

**zh** 注意  
必须在断电状态下进行连接!

**et** **TÄHELEPANU**  
Ühendada ainult pingevabas olekus!

**hr** **POZOR**  
Priključujte samo u beznaponskom stanju!

**ru** **ВНИМАНИЕ**  
Подключать только в обесточенном состоянии!

**hu** **FIGYELEM**  
Csak feszültségmentes állapotban csatlakoztassa!

**tr** **BİLDİRİM**  
Sadece gerilim sıfırken bağlayın!

**nl** **OPGELET**  
Alleen in spanningsloze toestand aansluiten!

**lv** **UZMANĪBU**  
Pieslēgt tikai tad, kad nenotiek sprieguma padeve!

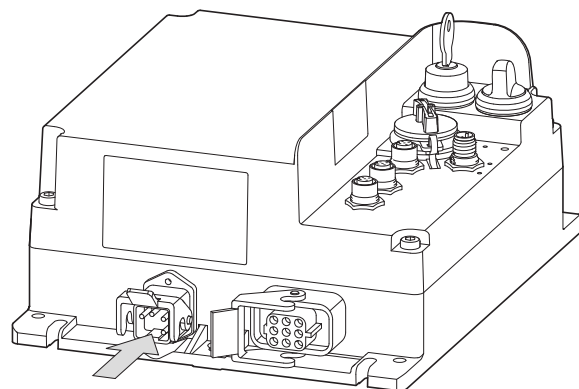
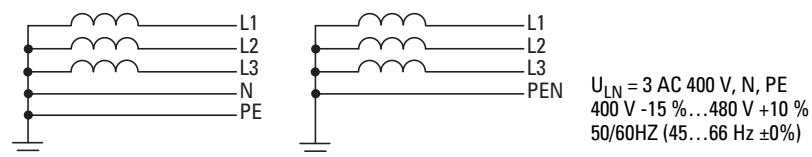
**uk** **ПОВІДОМЛЕННЯ**  
Підключати лише за відсутності напруги!

**da** **VIGTIGT**  
Må kun tilsluttes i spændingsfri tilstand!

**lt** **DĖMESIO**  
Prijungti tik tada, kai išjungta įtampa!

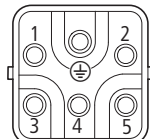
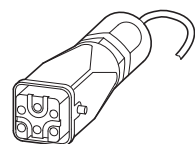
**ar** ملاحظة!!  
التوصيل فقط في حال عدم الفولتية!!

**Mains (TN, TT)**

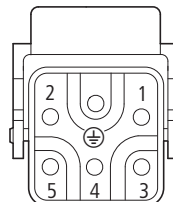


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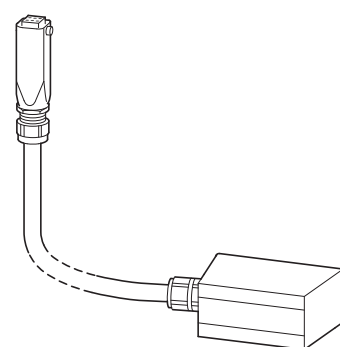
**HAN Q5/0**



**M**

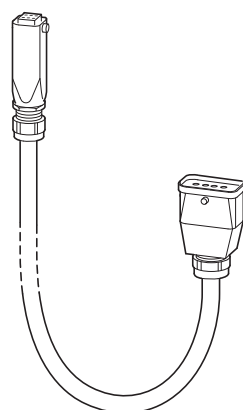
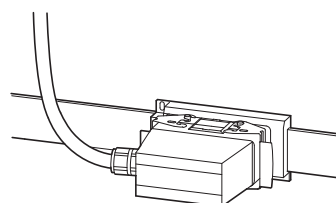


PIN	400/480 V AC
1	L1
2	L2
3	L3
4	N
5	-
PE	PE



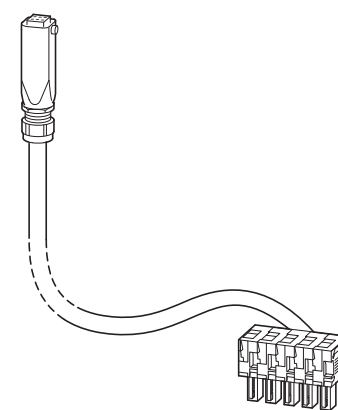
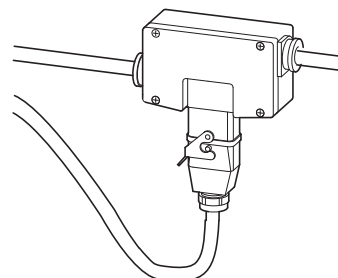
RA-C3/C1-1, 5HF

→ RA-C1-PLF1



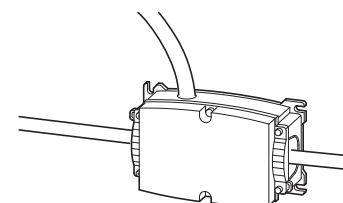
RA-C3/C2-1, 5HF

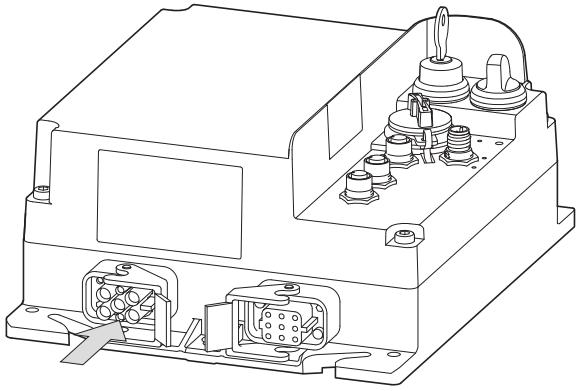
→ RA-C2-S1-4



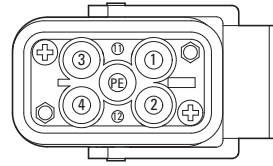
RA-C4-PPB/C3-1M5

→ RA-C4-PB65



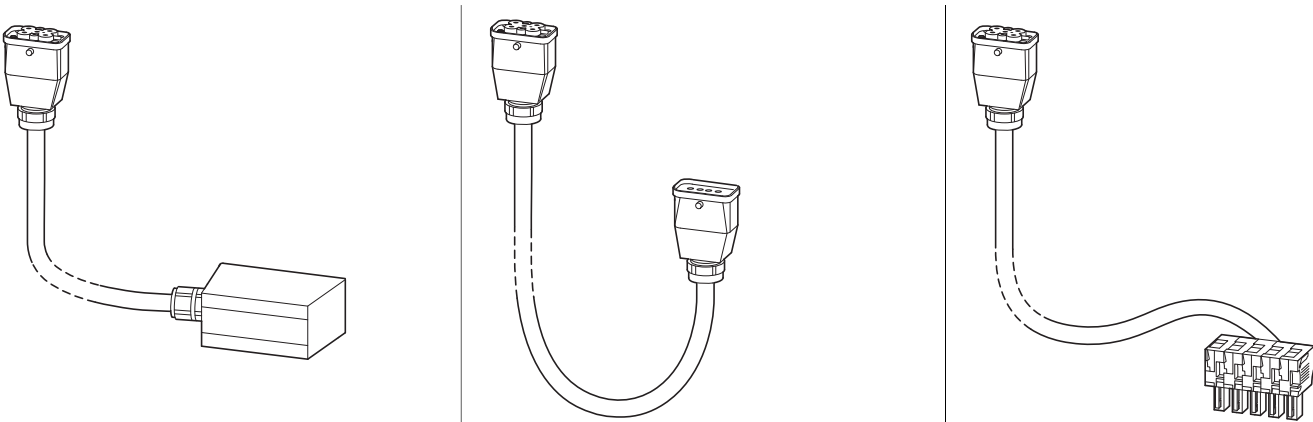
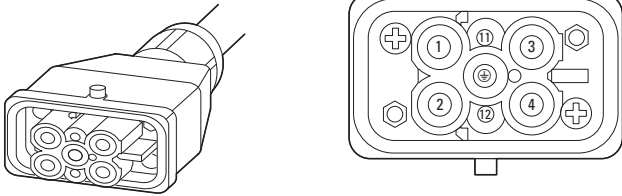


M



PIN	400/480 V AC
1	L1
2	L2
3	L3
4	(N)
PE	PE
11	-
12	-

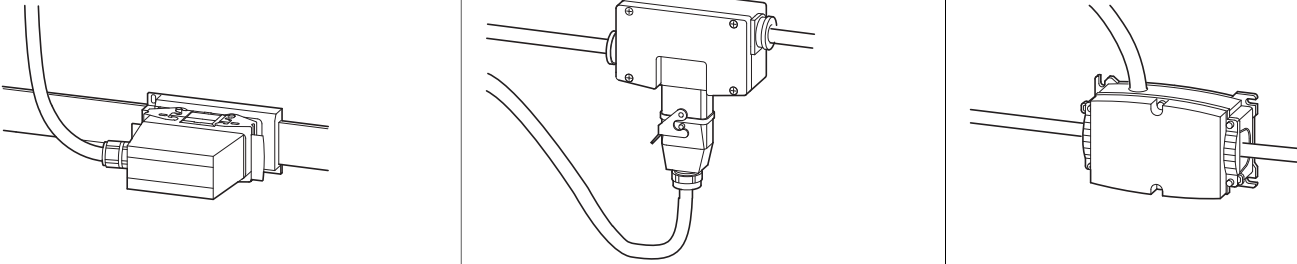
F



RA-Q4/C1-1M5  
→ RA-C1-PLF1

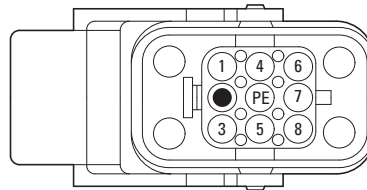
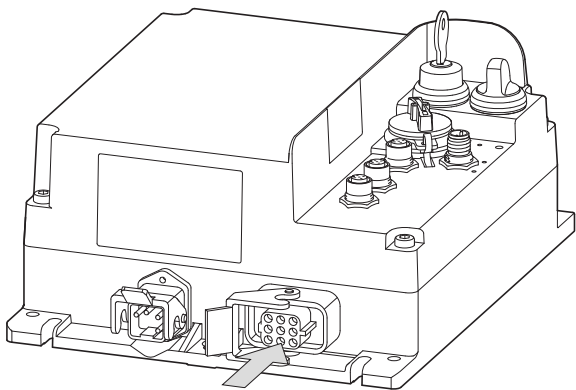
RA-Q4/C2-1M5  
→ RA-C2-S1-4

→ RA-C4-PB65



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Motor



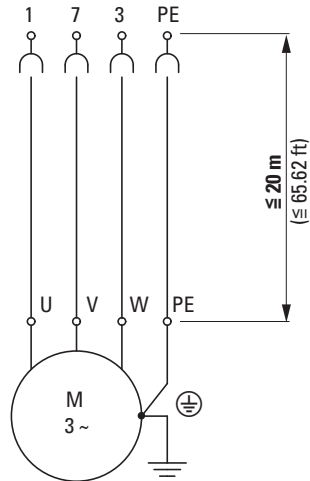
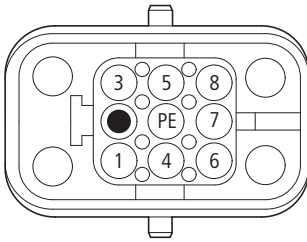
PIN	400 V AC/480 V AC		230 V AC / 400 V AC 277 V AC / 480 V AC	
	M 3~			
1	U			
●				
3	W			
4				B2
5		T1		
6				B1
7	V			
8		T2		
PE	PE			

# Motor connection plug

RAMO-CM1-2M0  
RAMO-CM1-5M0  
RAMO-CM1-10M



Plastic housing

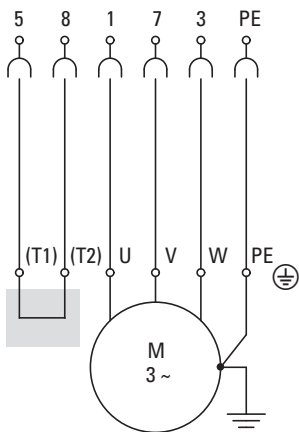
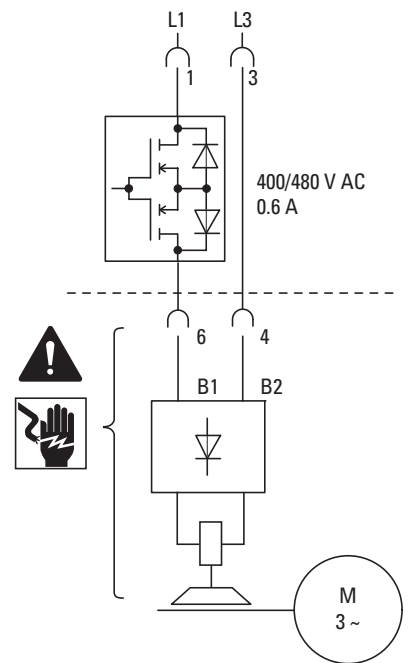
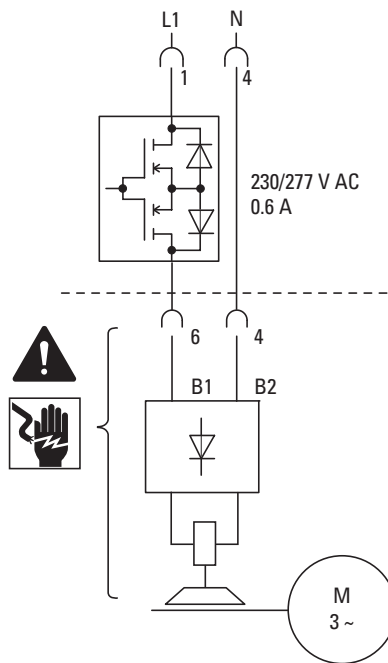
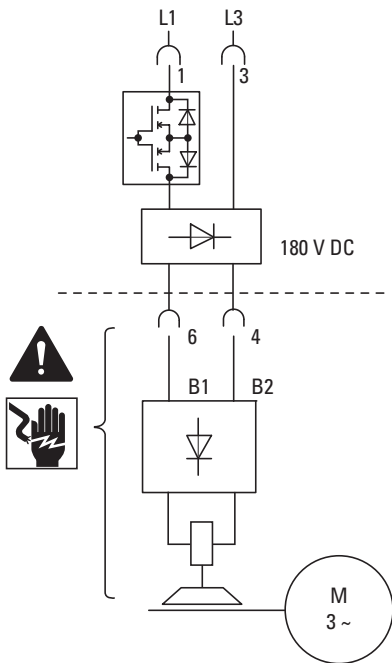


RAM05-xxx1...

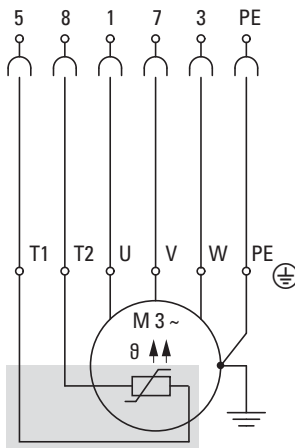
RAM05-xxx2...

RAM05-xxx4...

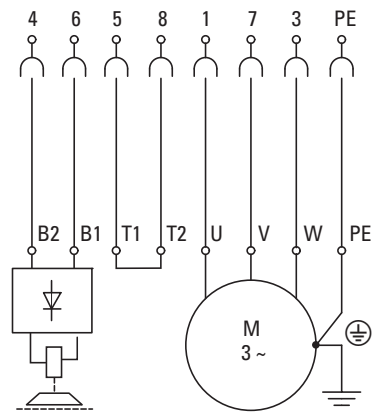
05/21 IL034084ZU



RAM05-...

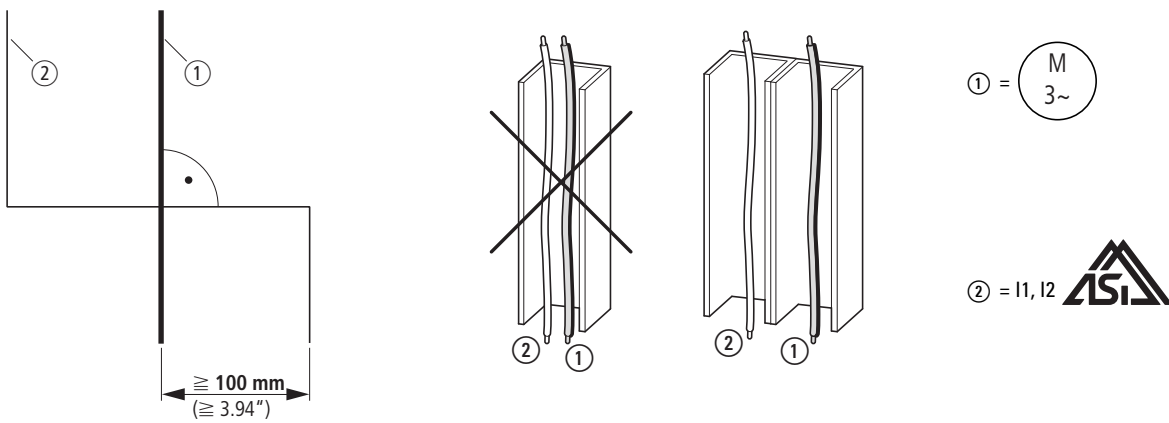
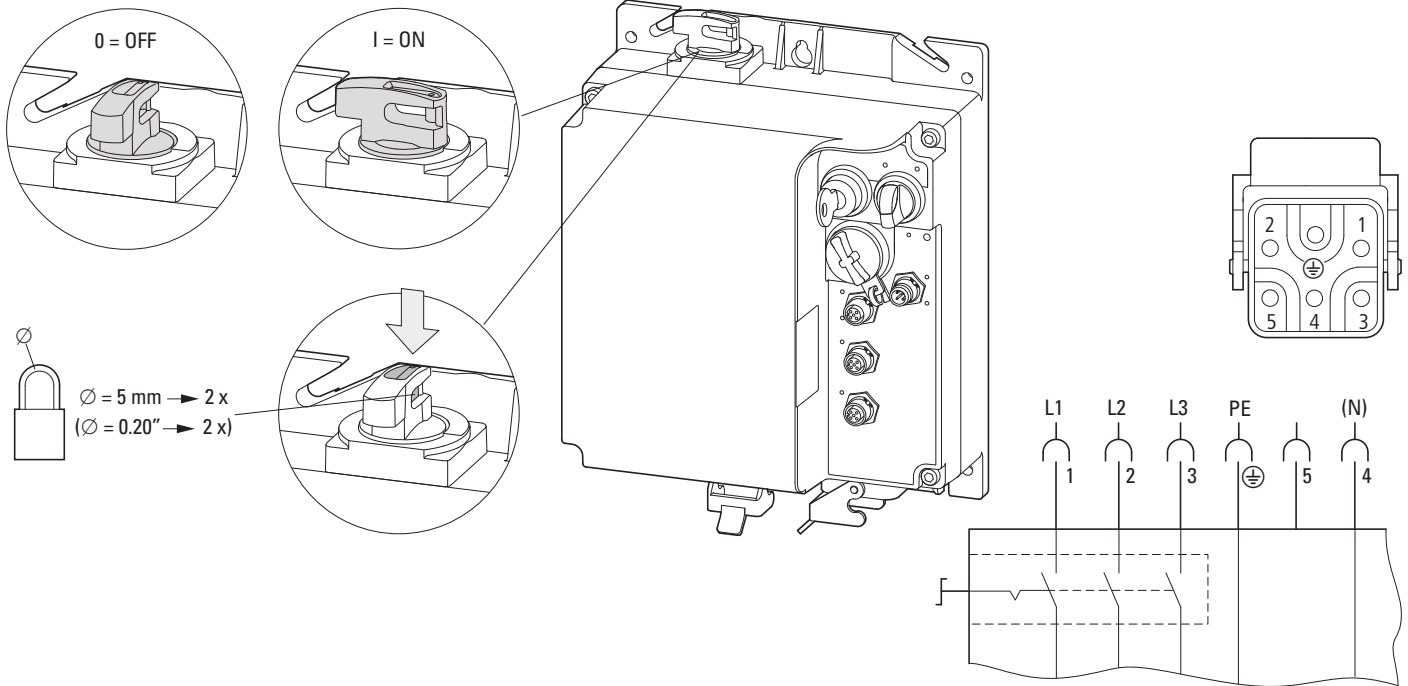


RAM05-...

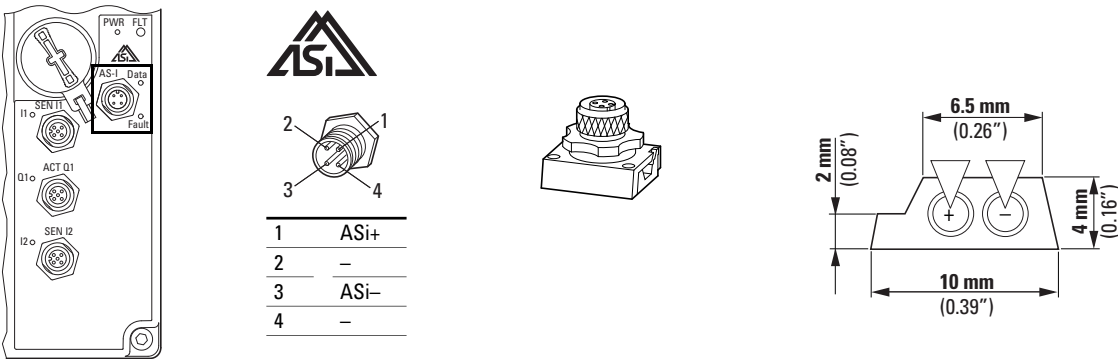


RAM05-xxx1..., RAM05-xxx2..., RAM05-xxx4...

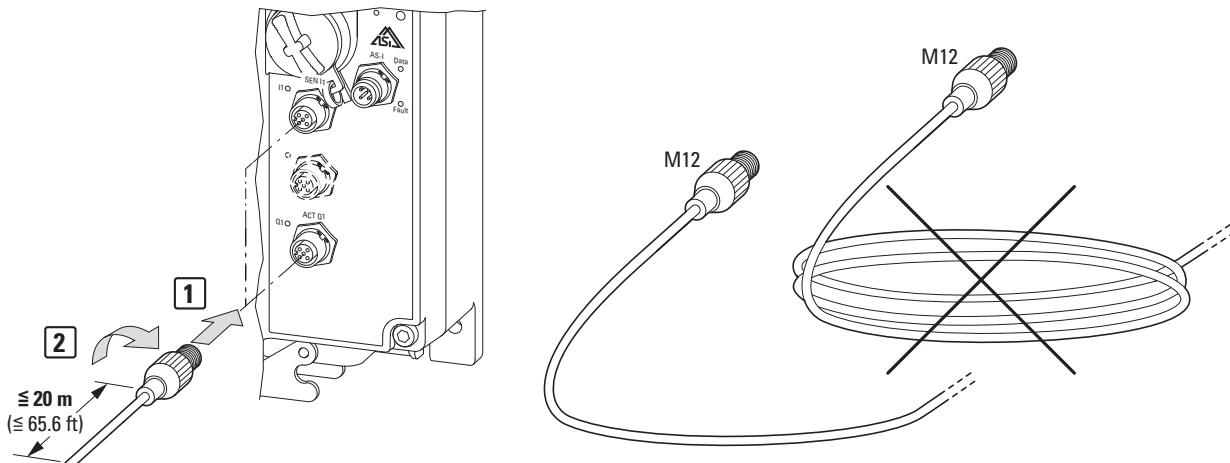
# RAM05-...-xxxRxx



## AS-Interface

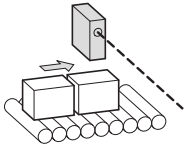


## M12



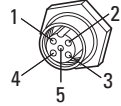
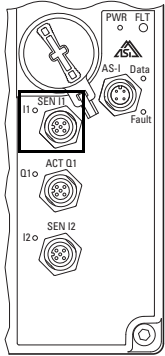
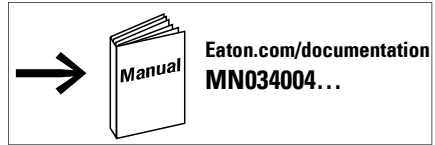


**Sensor inputs: I1, I2**  
"A" coded

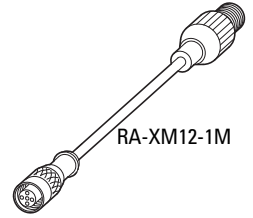
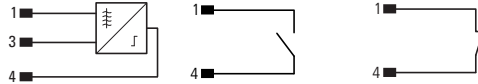


→ DIN IEC 304, DIN IEC 757

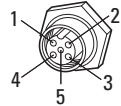
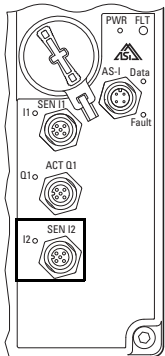
1	BN	1
2	WH	9
3	BU	6
4	BK	0
5	-	-



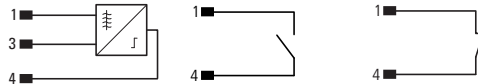
1	+24 V DC/160 mA
2	-
3	0 V
4	I1
5	-



RA-XM12-1M



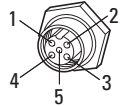
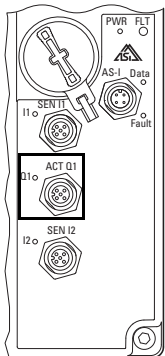
1	+24 V DC/160 mA
2	-
3	0 V
4	I2
5	-



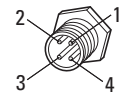
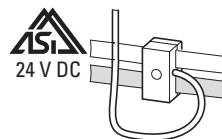
RA-XM12-1M

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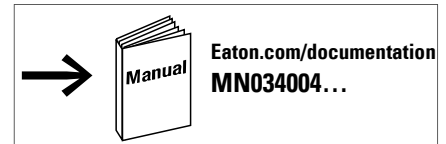
**Actuator outputs: Q1**  
RAM05-Dx1...,  
RAM05-Wx1...



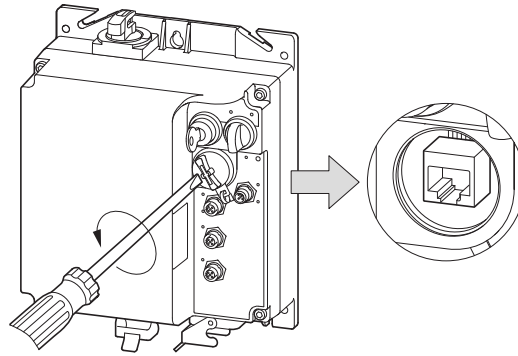
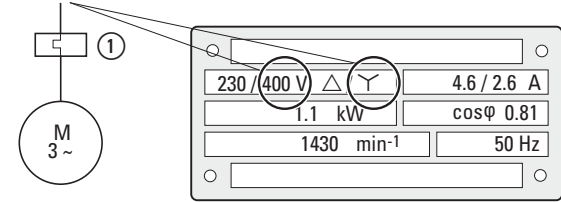
1	0 V
2	+24 V DC
3	0 V
4	+24 V DC
5	-



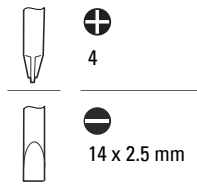
1	(ASi+)
2	0 V
3	(ASi-)
4	24 V



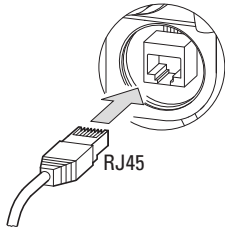
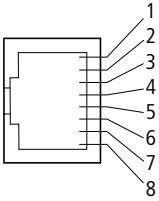
400/480 V AC



M32 x 1.5  
2 Nm (17.7 lb-in)



### RJ 45 plug

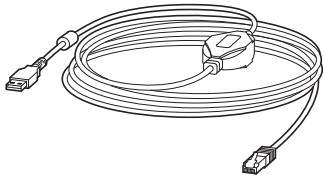


[Eaton.com/documentation](http://Eaton.com/documentation)

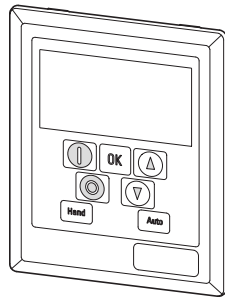
→ **DX-KEY-OLED, DX-KEY-LED2**  
IL04012020Z  
**DX-CBL-PC-3M0**  
IL040025ZU  
**DX-COM-STICK3-KIT**  
IL040051ZU

DX-CBL-PC-3M0  
DX-KEY-OLED  
DX-KEY-LED2  
DX-COM-STICK3-KIT

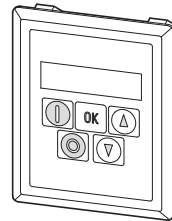
### DX-CBL-PC-3M0



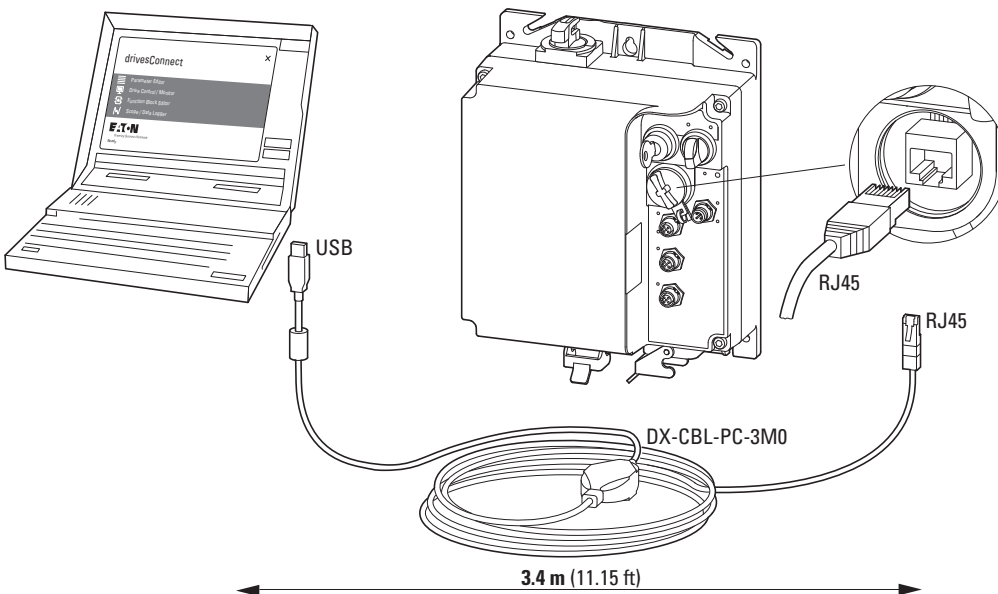
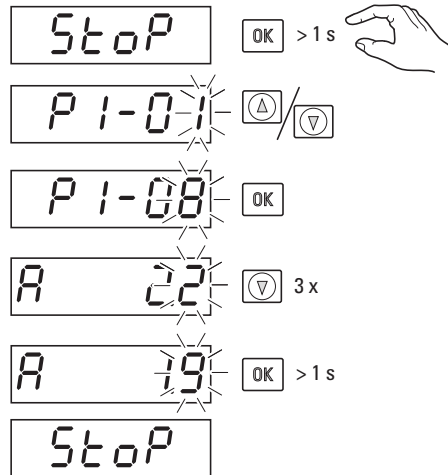
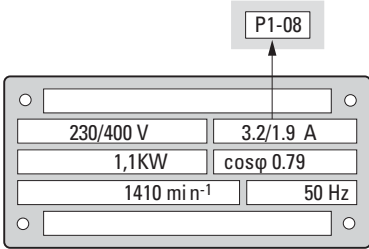
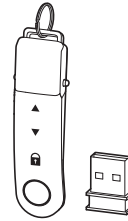
### DX-KEY-OLED



### DX-KEY-LED2



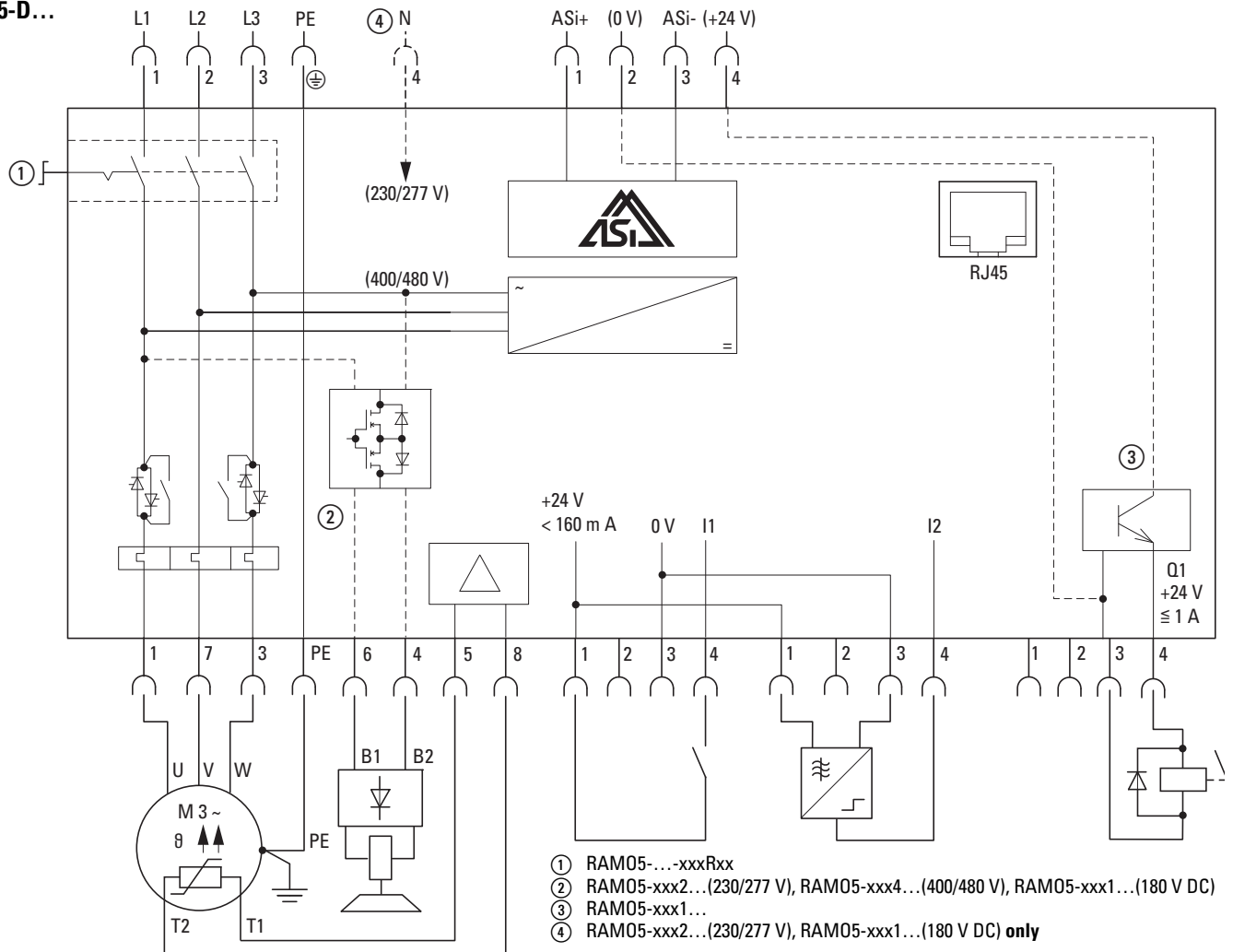
### DX-COM-STICK3-KIT



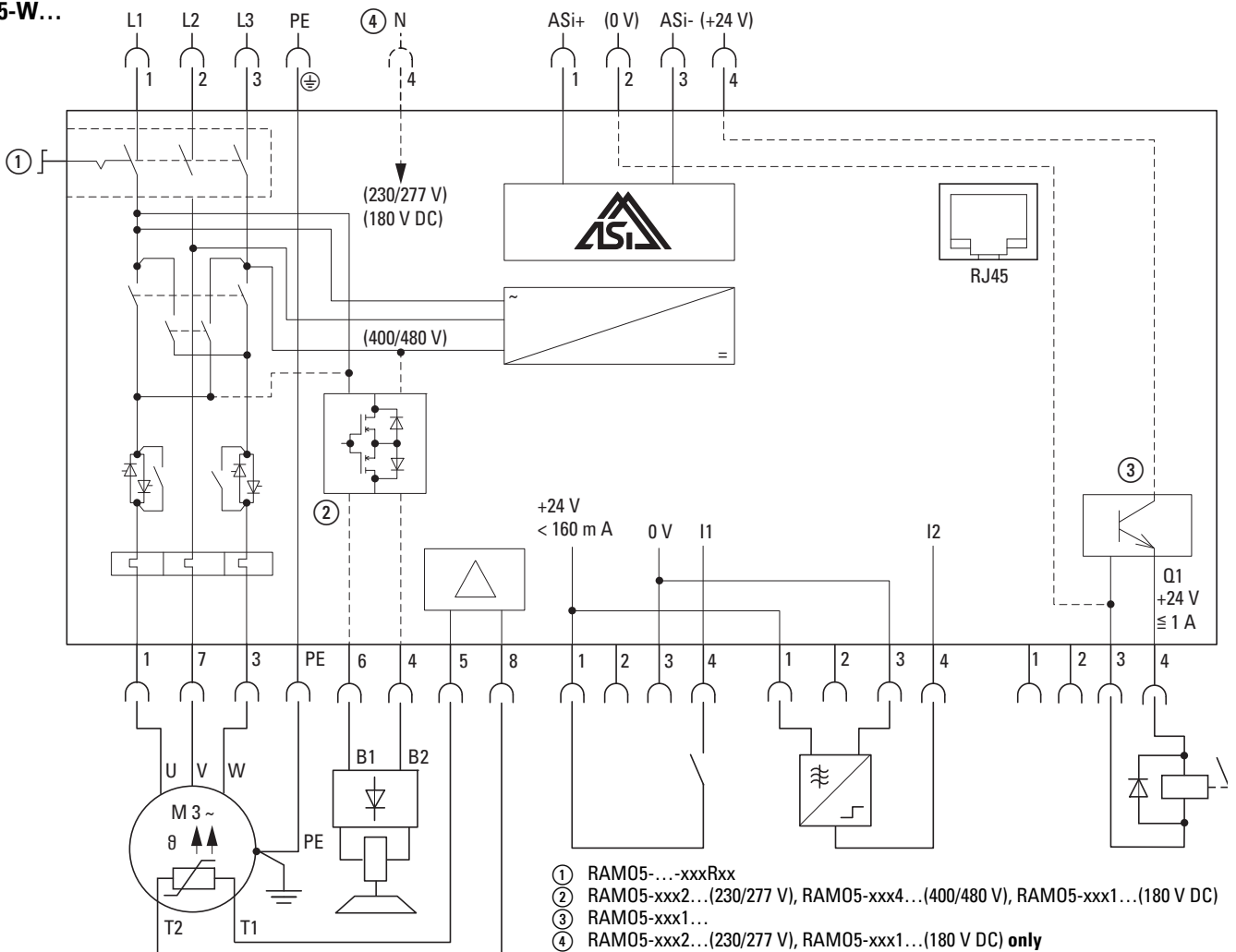
[Eaton.eu/software](http://Eaton.eu/software)  
→ Driver  
→ DrivesConnect

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**RAM05-D...**



**RAM05-W...**



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# UL<sup>®</sup> Cautions, Warnings and Instructions

UL<sup>®</sup> File: E251034  
 UL61800-5-1  
 CSA C22.2 No 274

## General

- These devices are enclosed type AC motor starters incorporating semiconductor switching means.
- These devices are intended for installation on industrial machines in accordance with Standard for Industry Machinery NFPA79.
- These devices do not provide reduced voltage starting feature.
- These devices do not provide isolation (isolating function).
- These devices do provide motor overload protection with thermal memory and phase-loss protection.
- These devices or control units have not been evaluated as providing a safety or limiting feature.
- These devices are for installation in overvoltage category III and pollution degree 3.
- Auxiliary control outputs intended to device resistive load.

## Electrical ratings

Model – 400 V range		Input (3-phase) FLA	Output (3-phase) FLA	Power kW	Power HP	BCP Fuse/Breaker A
Frame size	Model number					
1A	RAM05	6.6	6.6	3	3.0	30

Frame size 1A = no external fan fitted.  
 Input voltage 380 - 480/277 V AC, 50/60 Hz  
 Output voltage 380 - 480 V AC, 50/60 Hz

## Short circuit rating

Model	Short circuit rating (kA)	
	Fuses (J-Type)	Breakers (Type C)
RAM05	100 kA	10 kA
RAM05-...-xxxRxx (with repair switch)	10 kA	10 kA

## NOTICE

Suitable for use on a circuit capable of delivering not more than 100 000 rms symmetrical amperes, 480 volts maximum. Suitable for motor group installation. When protected by J class fuses rated 30 A.

Suitable for use on a circuit capable of delivering not more than 10 000 rms symmetrical amperes, 480 volts maximum. Suitable for motor group installation. When protected by a circuit breaker having an interrupting rating not less than 10 000 rms symmetrical amperes, 480 volts maximum, rated 32 A.

- Wiring terminals marked to indicate proper connections for the power supply, load and control circuit.
- Use 60/75 °C copper field wiring conductors.
- The ground terminals are marked with “G”, “GR”, “GRD”, “Ground”, “Grounding”, “PE”, or the like. The symbol 5019. IEC publication 417, may be used, but if used alone the symbol shall be defined in the installation instructions provided with the equipment.

## Environmental ratings

- Maximum ambient air temperature: 55 °C
- Enclosure type 12



## WARNING

The opening of the branch-circuit protective device may be an indication that a fault has been interrupted. To reduce the risk of fire or electric shock, current-carrying parts and other components of the controller should be examined and replaced if damaged.

For Canadian installations



## AVERTISSEMENT

L'ouverture du dispositif de protection de la dérivation peut signifier qu'un courant de défaut a été interrompu. Pour réduire le risque d'incendie ou de choc électrique, les pièces porteuses de courant et autres composants du contrôleur devraient être examinées et remplacées s'ils sont endommagés.

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