



(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 og vedligehold 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 electricista 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) Eluohhtlik! 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 osebe.



(sk) Nebezpečnost 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) Электрична 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.

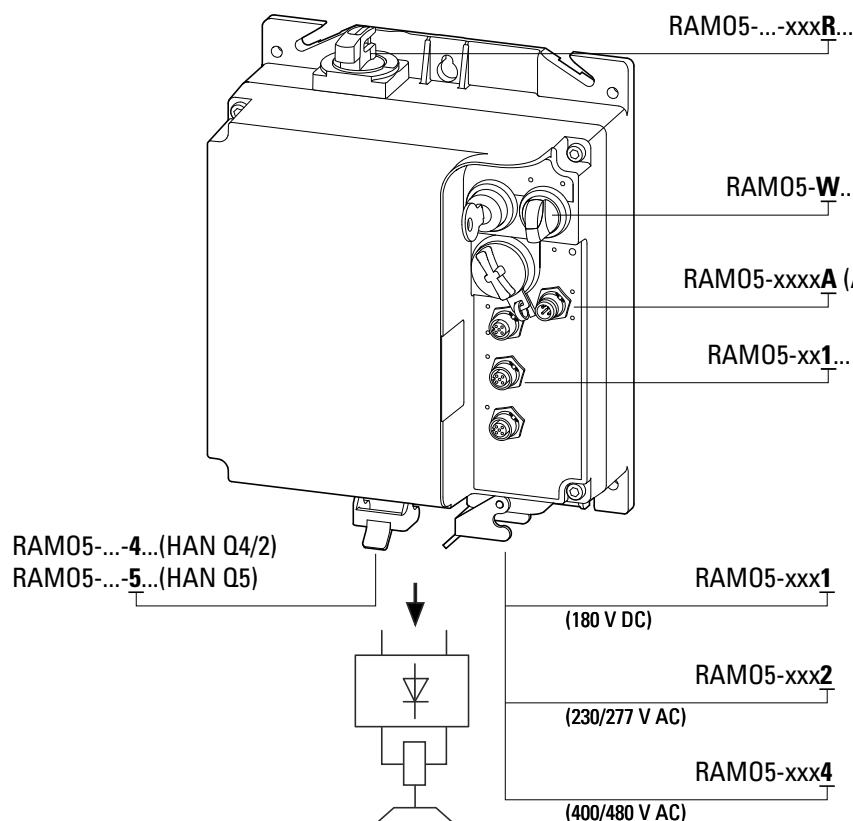


(uk) Електричний струм! Небезпечно для життя!
Встановлення пристрою, так само, як і робота з ним, повинні виконуватись кваліфікованим електриком або персоналом, що пройшов спеціальну підготовку.



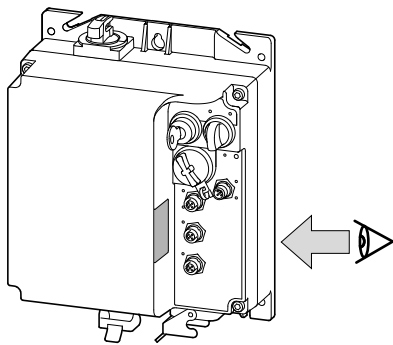
(ar) تحذیر! تيار كهربائي! خطر موت!
التثبيت والتكليف و أعمال الصيانة يجب أن تقام فقط من طرف الموظفين المؤهلين

RAM05-xxxxA



Eaton.com/documentation
MN034004...

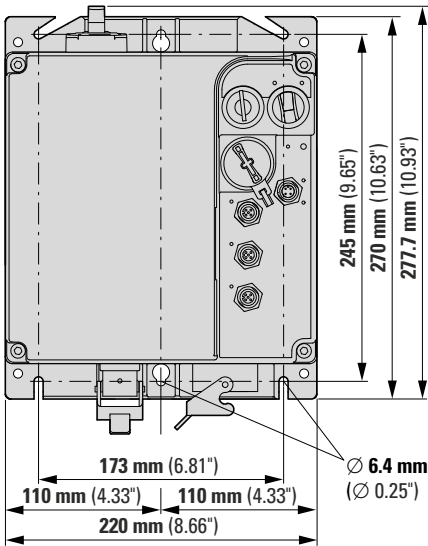




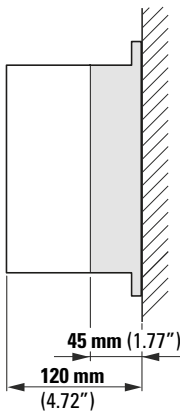
RAM05-W 2 0 2 A31- 4 12 R S1

- 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

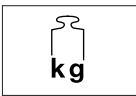
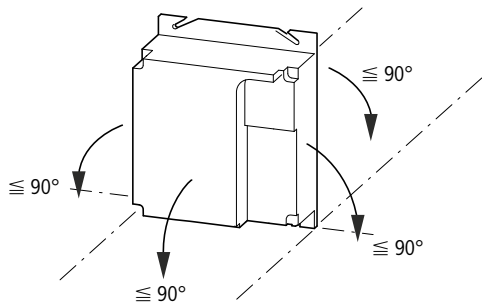
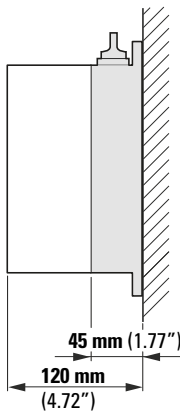
RAM05-...-xxx0xx



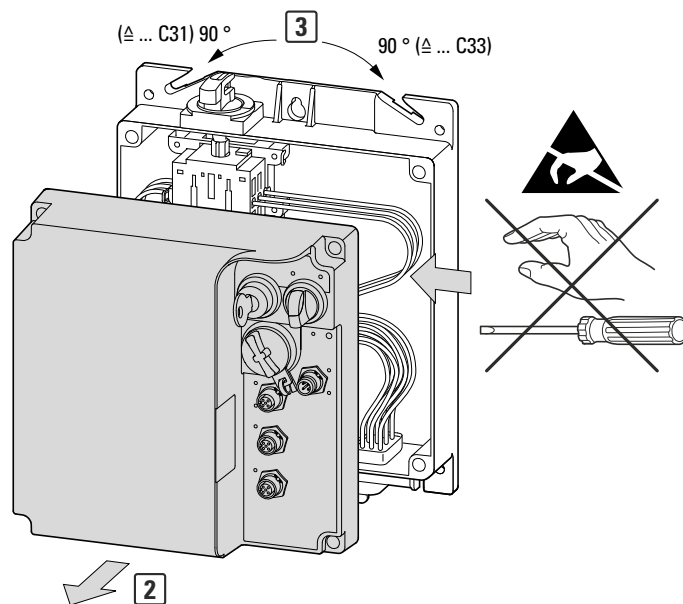
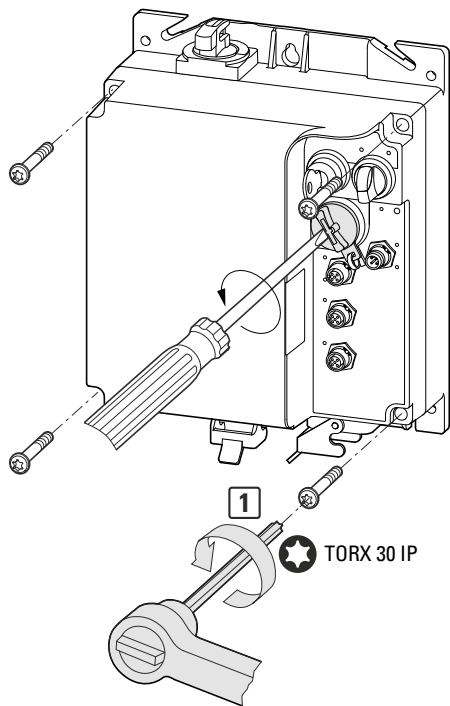
RAM05-...-xxx0xx



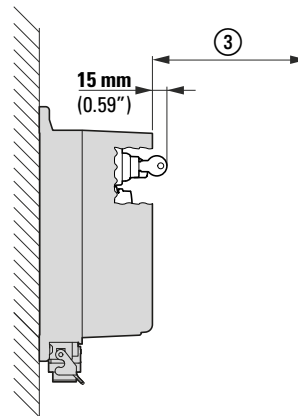
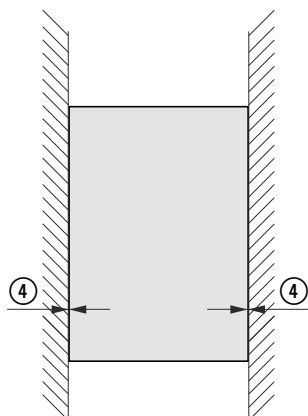
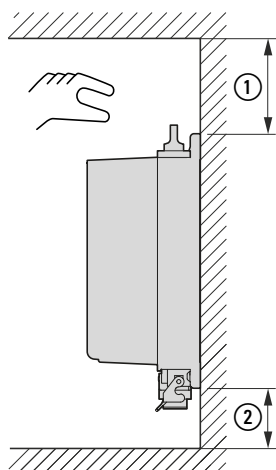
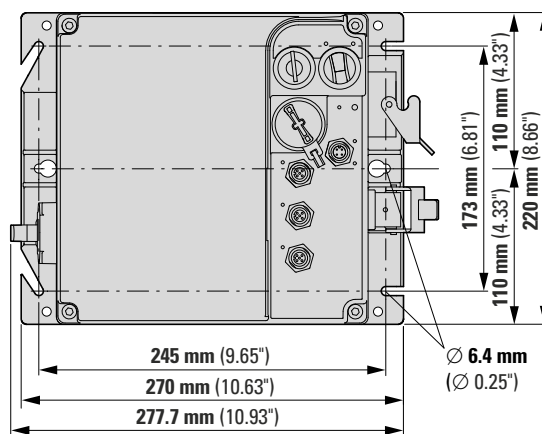
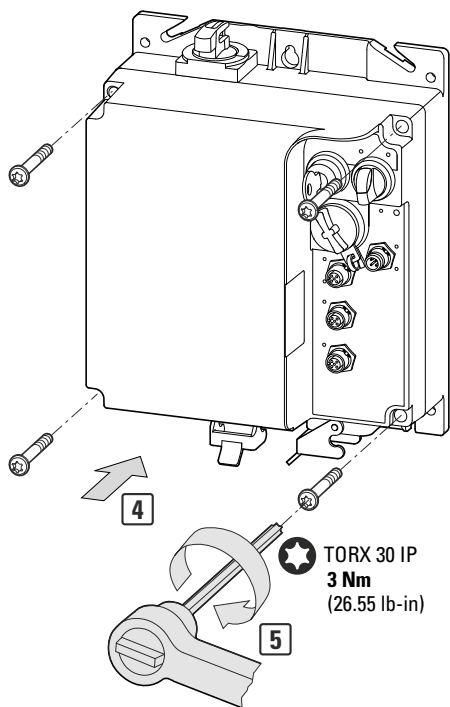
RAM05-...-xxxRxx



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

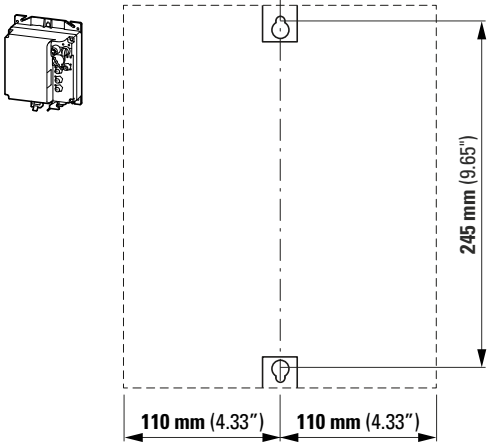


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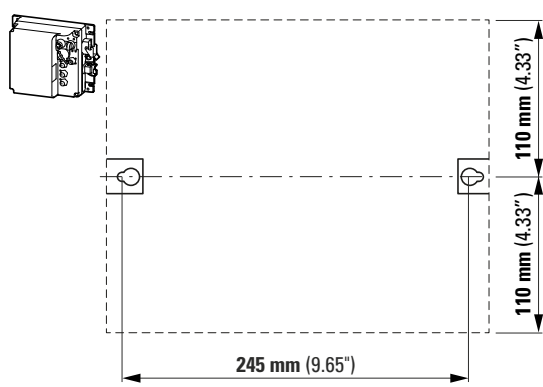


- ① $\geq 150 \text{ mm}$ ($\geq 5.91"$)
- ② $\geq 100 \text{ mm}$ ($\geq 3.94"$)
- ③ $\geq 20 \text{ mm}$ ($\geq 0.79"$)
- ④ ≥ 0

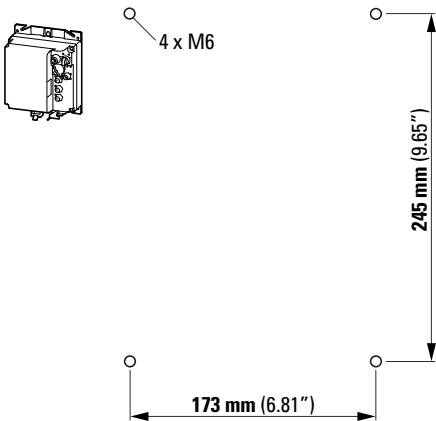
1a



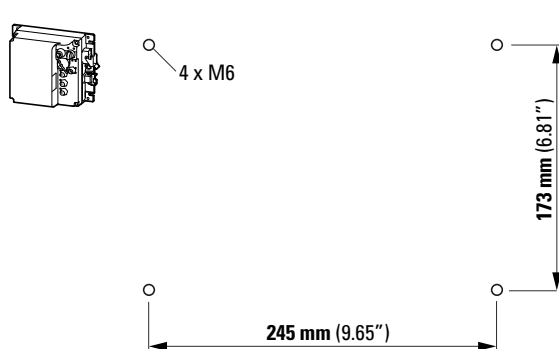
1a



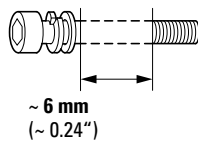
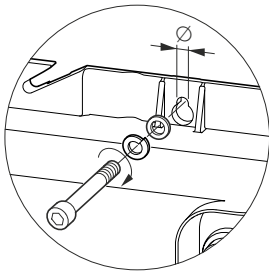
1b



1b



2



Ø



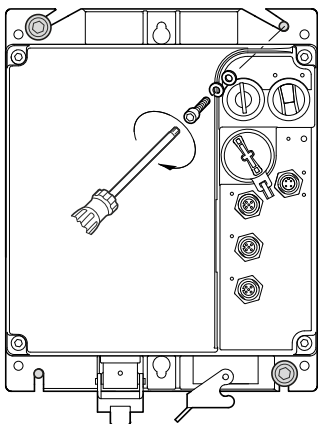
6.2 mm (0.24")

2 x / 4 x M6

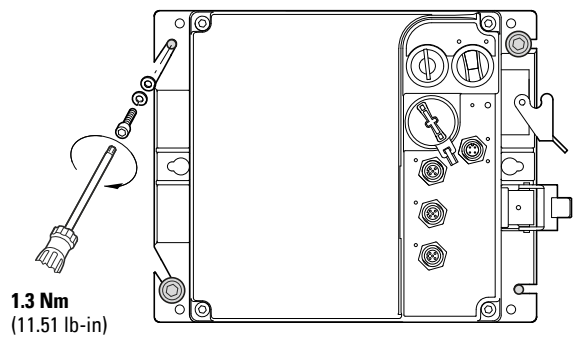
4 x DIN 127, M6

4 x DIN 125, M6

3



3





(en) CAUTION

Connect only in voltage-free state!

(de) VORSICHT

Nur im spannungsfreien Zustand anschließen!

(fr) ATTENTION

Raccordez l'appareil uniquement hors tension !

(es) ATENCIÓN

¡Conectar únicamente en estado sin tensión!

(it) ATTENZIONE

Collegare solo in assenza di tensione!

(zh) 注意

必须在断电状态下进行连接!

(ru) ВНИМАНИЕ

Подключать только в обесточенном состоянии!

(nl) VOORZICHTIG

Alleen in spanningsloze toestand aansluiten!

(da) FORSIGTIG

Må kun tilsluttes i spændingsfri tilstand!

(el) ΠΡΟΣΟΧΗ

Συνδέστε μόνο όταν δεν επικρατεί τάση!

(pt) CUIDADO

Ligar apenas com a tensão desligada!

(sv) OBSERVERA

Får endast anslutas i spänningsfritt tillstånd!

(fi) HUOMIO

Kytke vain jännitteettömässä tilassa!

(cs) UPOZORNĚNÍ

Připojujte jen při zcela odpojeném napájení!

(et) ETTEVAATUST

Ühendada ainult pingevabas olekus!

(hu) VIGYÁZAT

Csak feszültségmentes állapotban csatlakoztassa!

(lv) UZMANĪBU

Pieslēgt tikai tad, kad nenotiek sprieguma padeve!

(lt) PERSPĖJIMAS

Prijungti tik tada, kai išjungta įtampa!

(pl) PRZESTROGA

Podłączać zawsze po uprzednim odłączeniu od zasilania elektrycznego!

(sl) POZOR

Napravo priključite le, ko ni pod napetostjo!

(sk) UPOZORNENIE

Napáťat' len v stave bez napätia!

(bg) ВНИМАНИЕ

Свързвайте само, когато уреда не е под напрежение!

(ro) ATENTIE

Conectați doar când aparatul nu se află sub tensiune!

(hr) PAZNJA

Priključujte samo u beznaponskom stanju!

(tr) DİKKAT

Sadece gerilim sıfırken bağlayın!

(sr) ОПРЕЗ

Прикључујте само у стању без напона!

(no) FORSIKTIG

Tilkoble bare i spenningsfri tilstand!

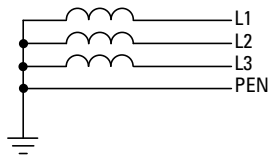
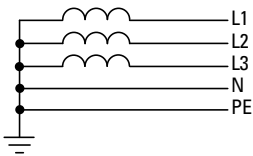
(uk) УВАГА

Підключати лише за відсутності напруги!

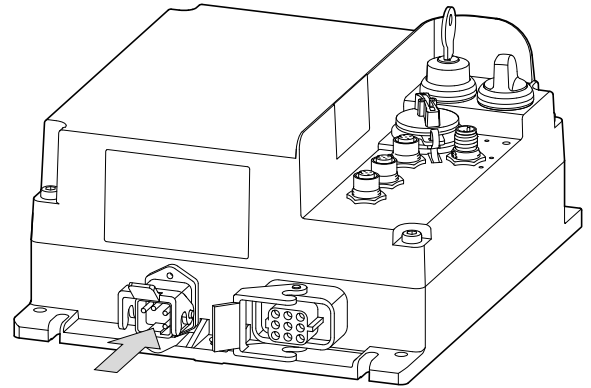
(ar) انتباه

التوصيل فقط في حال عدم الفولتية!!

Mains (TN, TT)

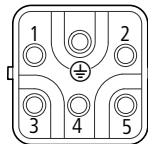
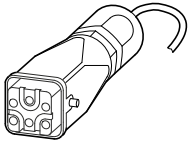


$U_{LN} = 3 \text{ AC } 400 \text{ V, N, PE}$
 $400 \text{ V } -15 \% \dots 480 \text{ V } +10 \%$
 $50/60 \text{ HZ } (45 \dots 66 \text{ Hz } \pm 0\%)$

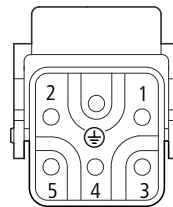


HAN Q5/0

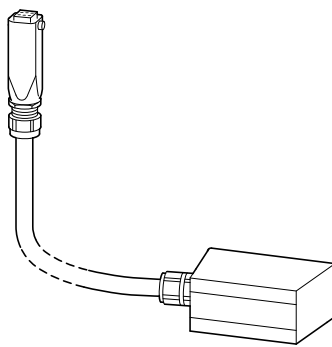
F



M

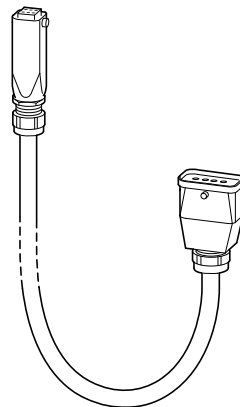
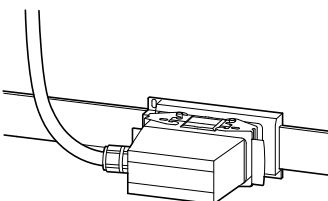


PIN	400/480 V AC
1	L1
2	L2
3	L3
4	N
5	-
PE	PE



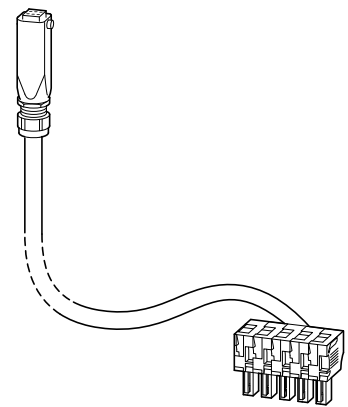
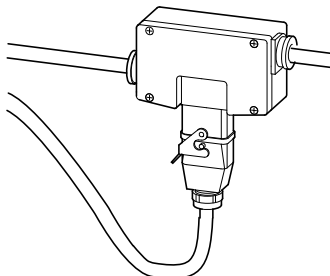
RA-C3/C1-1, 5HF

→ RA-C1-PLF1



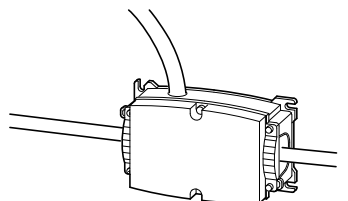
RA-C3/C2-1, 5HF

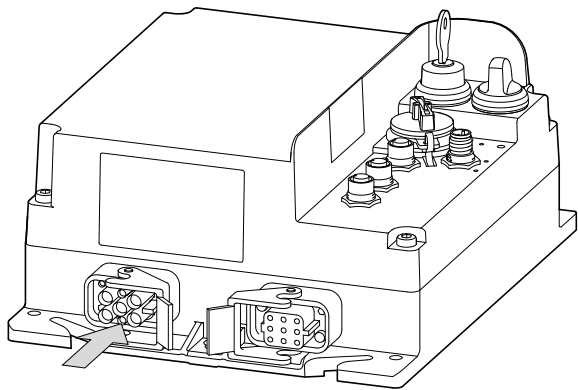
→ RA-C2-S1-4



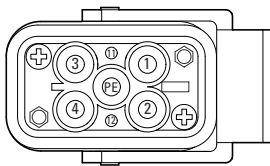
RA-C4-PPB/C3-1M5

→ RA-C4-PB65

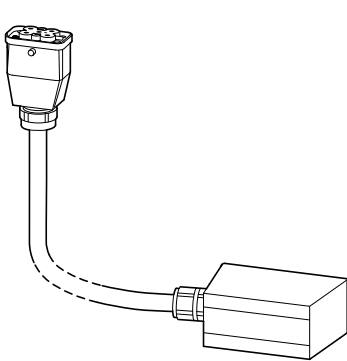
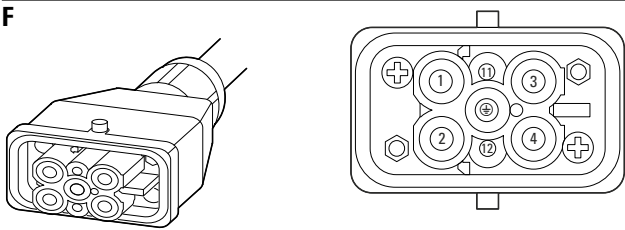




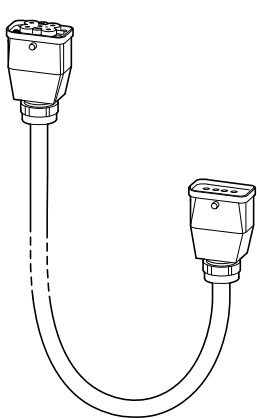
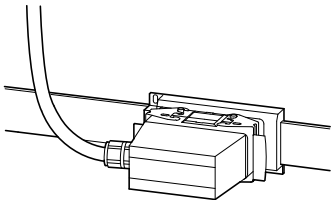
M



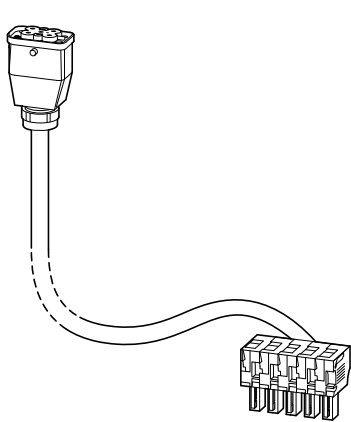
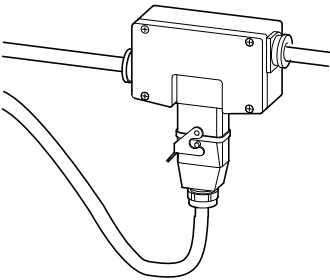
PIN	400/480 V AC
1	L1
2	L2
3	L3
4	(N)
PE	PE
11	–
12	–



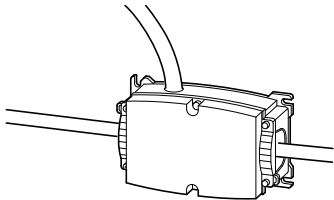
RA-Q4/C1-1M5
→ RA-C1-PLF1



RA-Q4/C2-1M5
→ RA-C2-S1-4

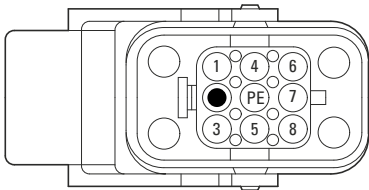
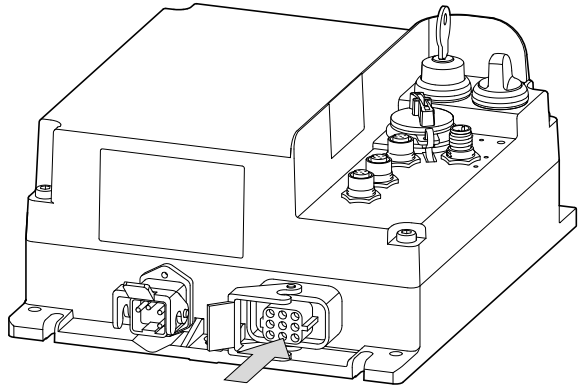


→ RA-C4-PB65



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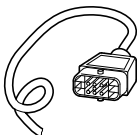
Motor



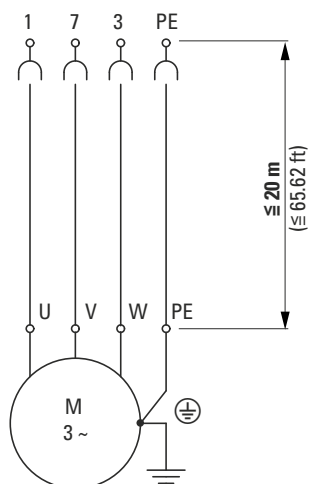
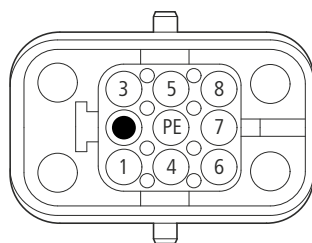
400 V AC/480 V AC		230 V AC / 400 V AC 277 V AC / 480 V AC	
PIN	M 3~		
1	U		
●			
3	W		B2
4			
5		T1	
6			B1
7	V		
8		T2	
PE	PE		

Motor connection plug

RAM0-CM1-2M0
RAM0-CM1-5M0
RAM0-CM1-10M



Plastic housing

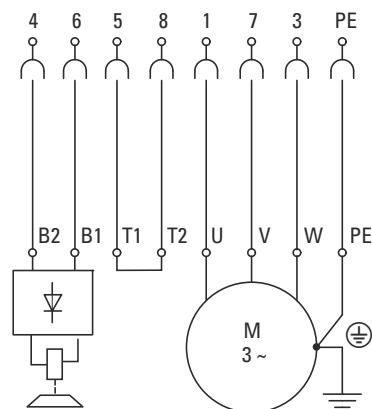
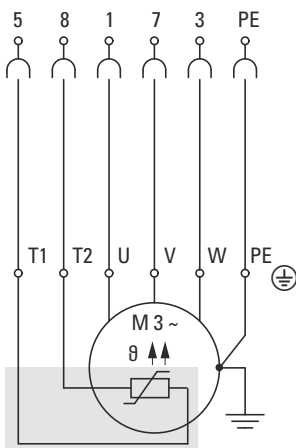
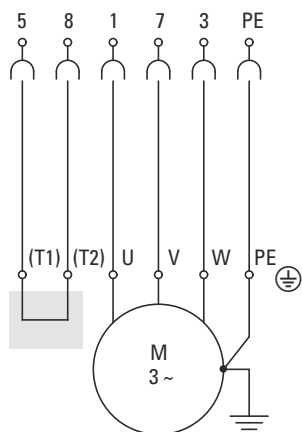
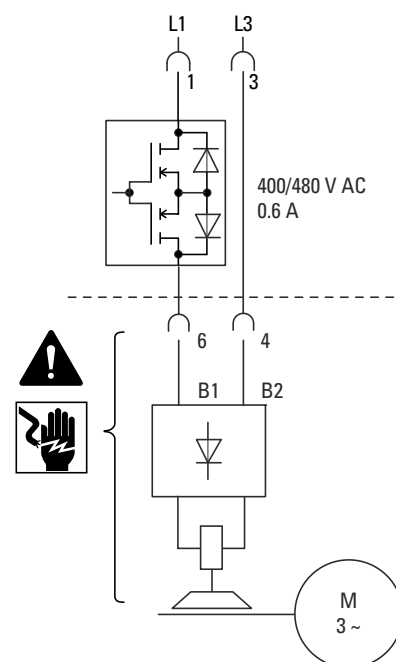
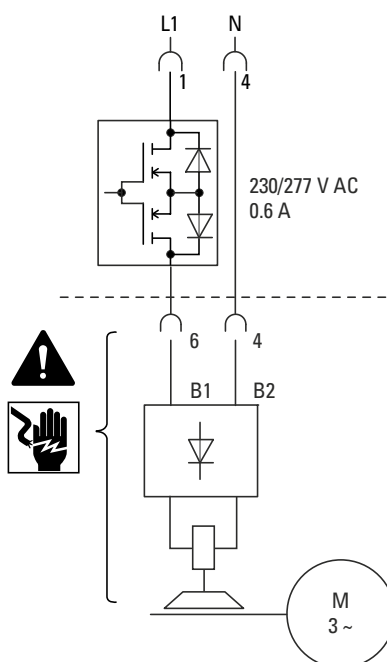
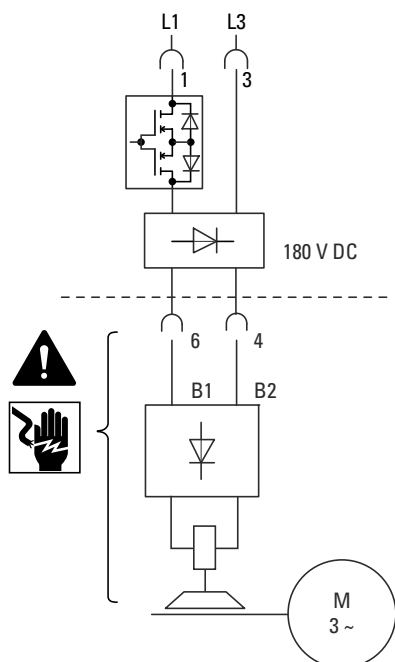


RAM05-xxx1...

RAM05-xxx2...

RAM05-xxx4...

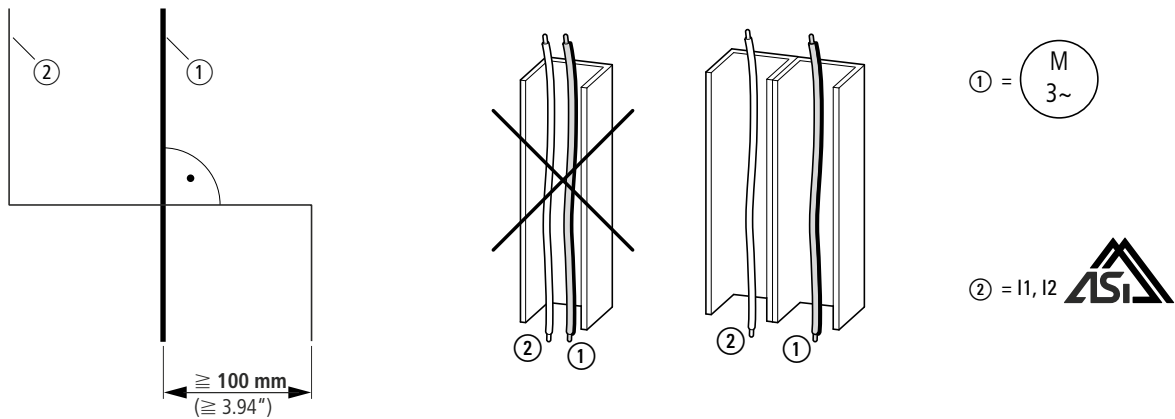
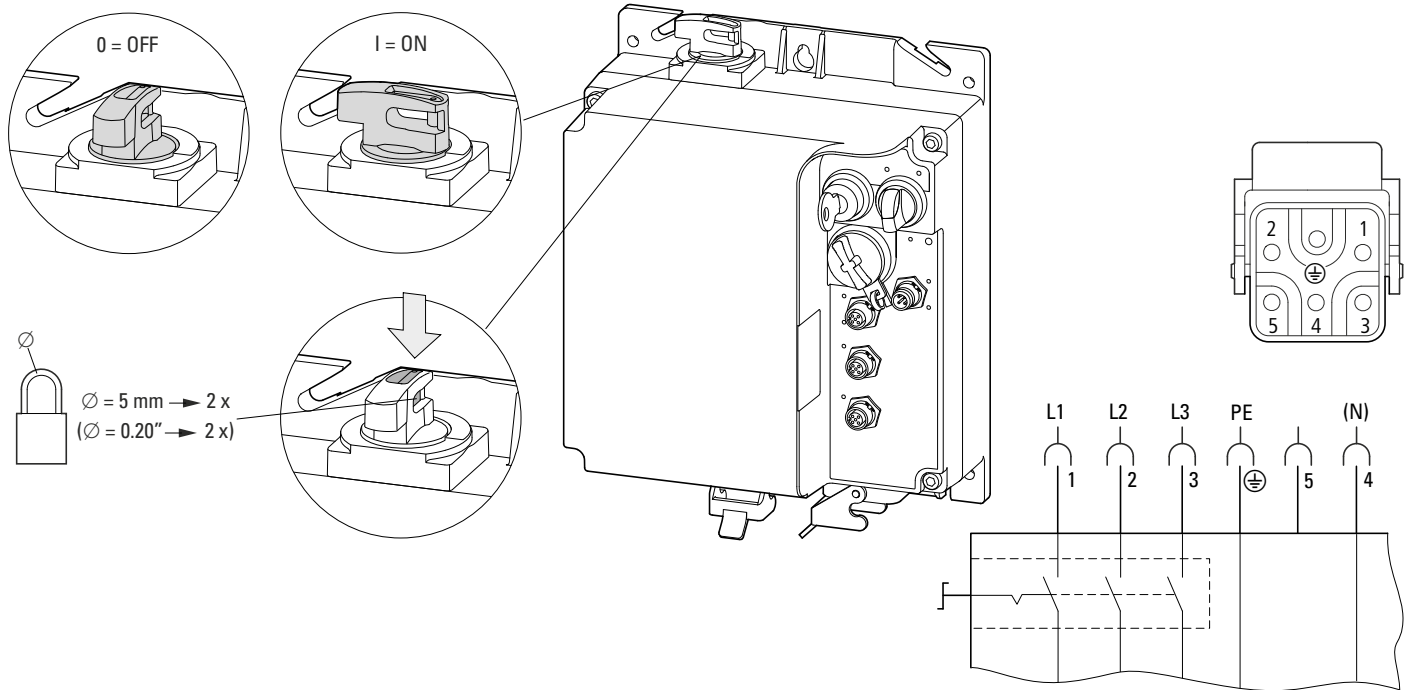
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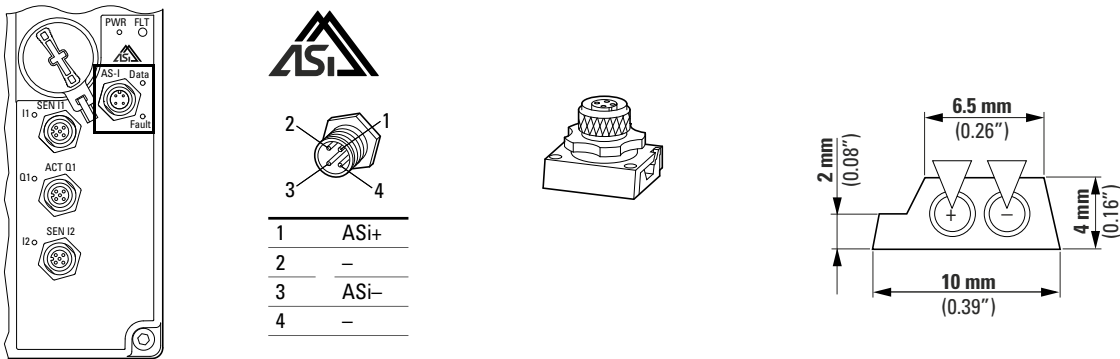
RAM05-...

RAM05-...

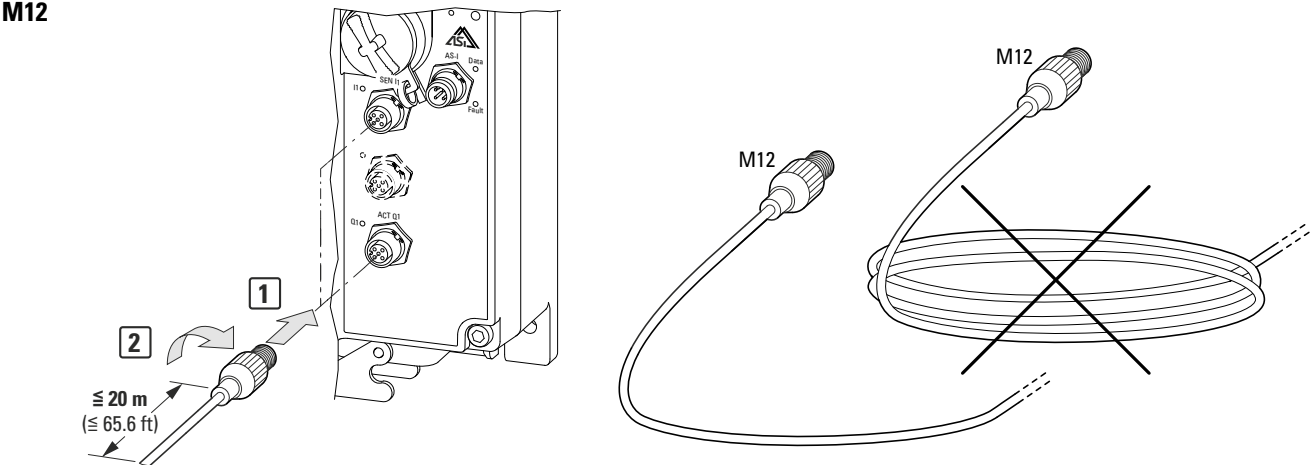
RAM05-xxx1..., RAM05-xxx2..., RAM05-xxx4...



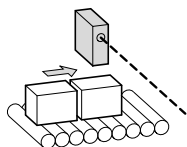
AS-Interface



M12

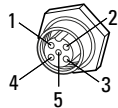
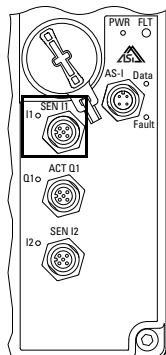
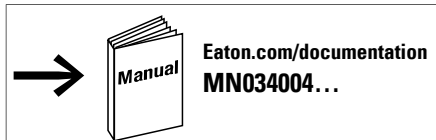


Sensor inputs: I1, I2 "A" coded

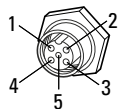
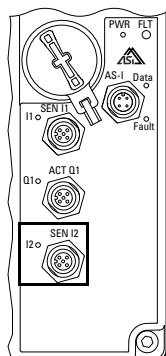
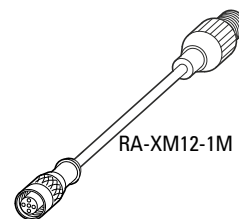
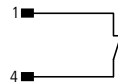
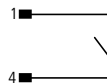
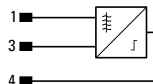


→ DIN IEC 304, DIN IEC 757

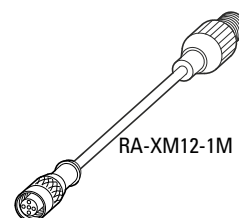
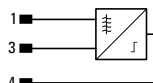
1	BN	1
2	WH	9
3	BU	6
4	BK	0
5	—	—



1	+24 V DC/160 mA
2	—
3	0 V
4	I1
5	—

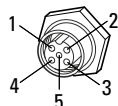
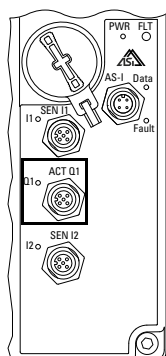


1	+24 V DC/160 mA
2	—
3	0 V
4	I2
5	—

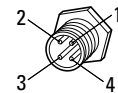
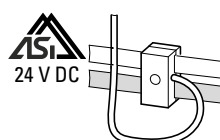


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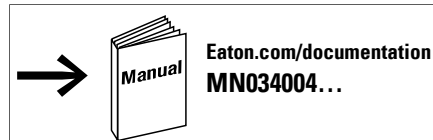
Actuator outputs: Q1 RAM05-Dx1..., RAM05-Wx1...



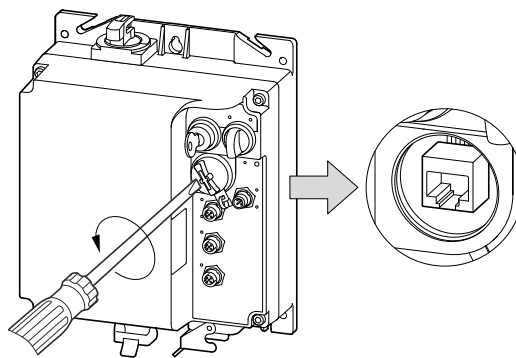
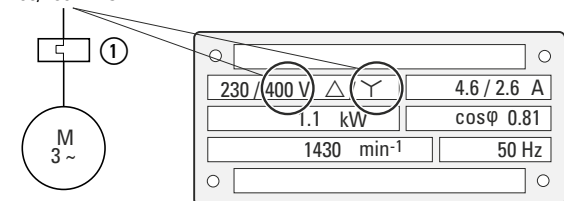
1	0 V
2	+24 V DC
3	0 V
4	+24 V DC
5	—



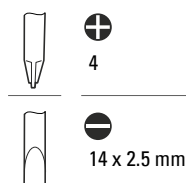
1	(ASi+)
2	0 V
3	(ASi-)
4	24 V



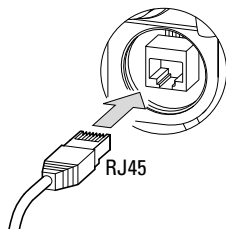
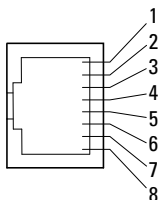
400/480 V AC



M32 x 1.5
2 Nm (17.7 lb-in)

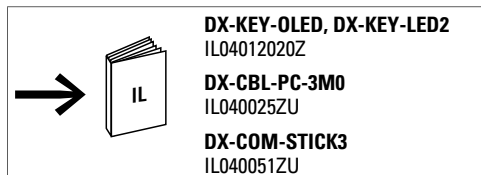


RJ 45 plug

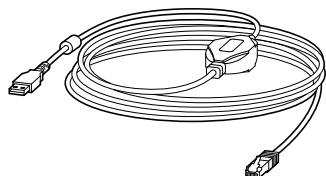


DX-CBL-PC-3M0
DX-KEY-OLED
DX-KEY-LED2
DX-COM-STICK3

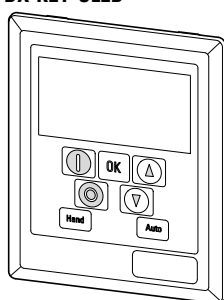
Eaton.com/documentation



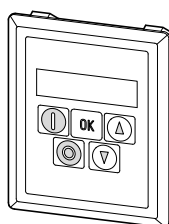
DX-CBL-PC-3M0



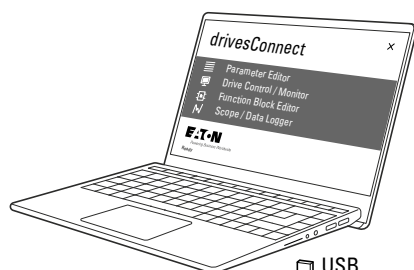
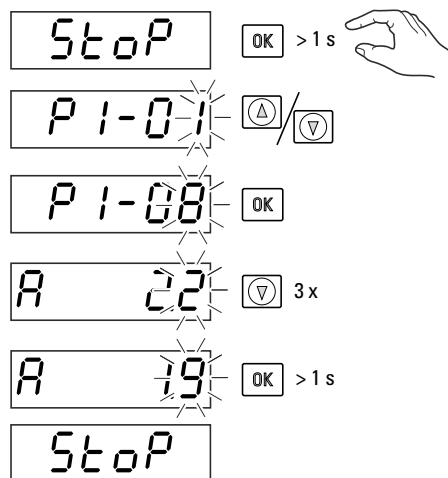
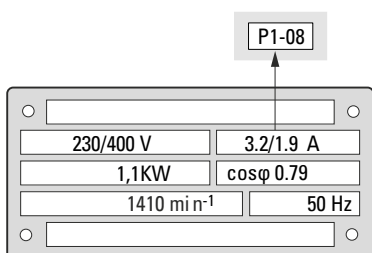
DX-KEY-OLED



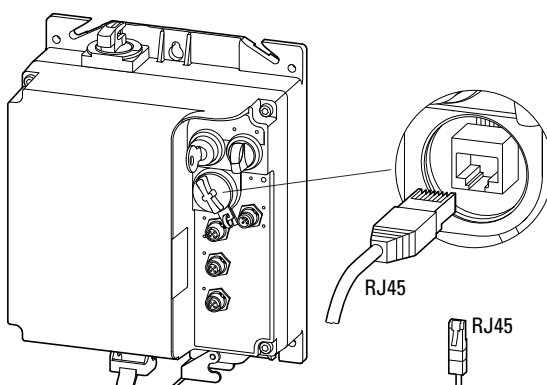
DX-KEY-LED2



DX-COM-STICK3



USB



RJ45

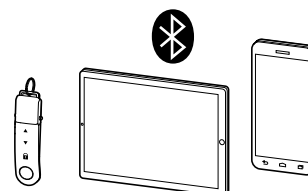
RJ45

DX-CBL-PC-3M0

3.4 m (11.15 ft)

Eaton.com/software

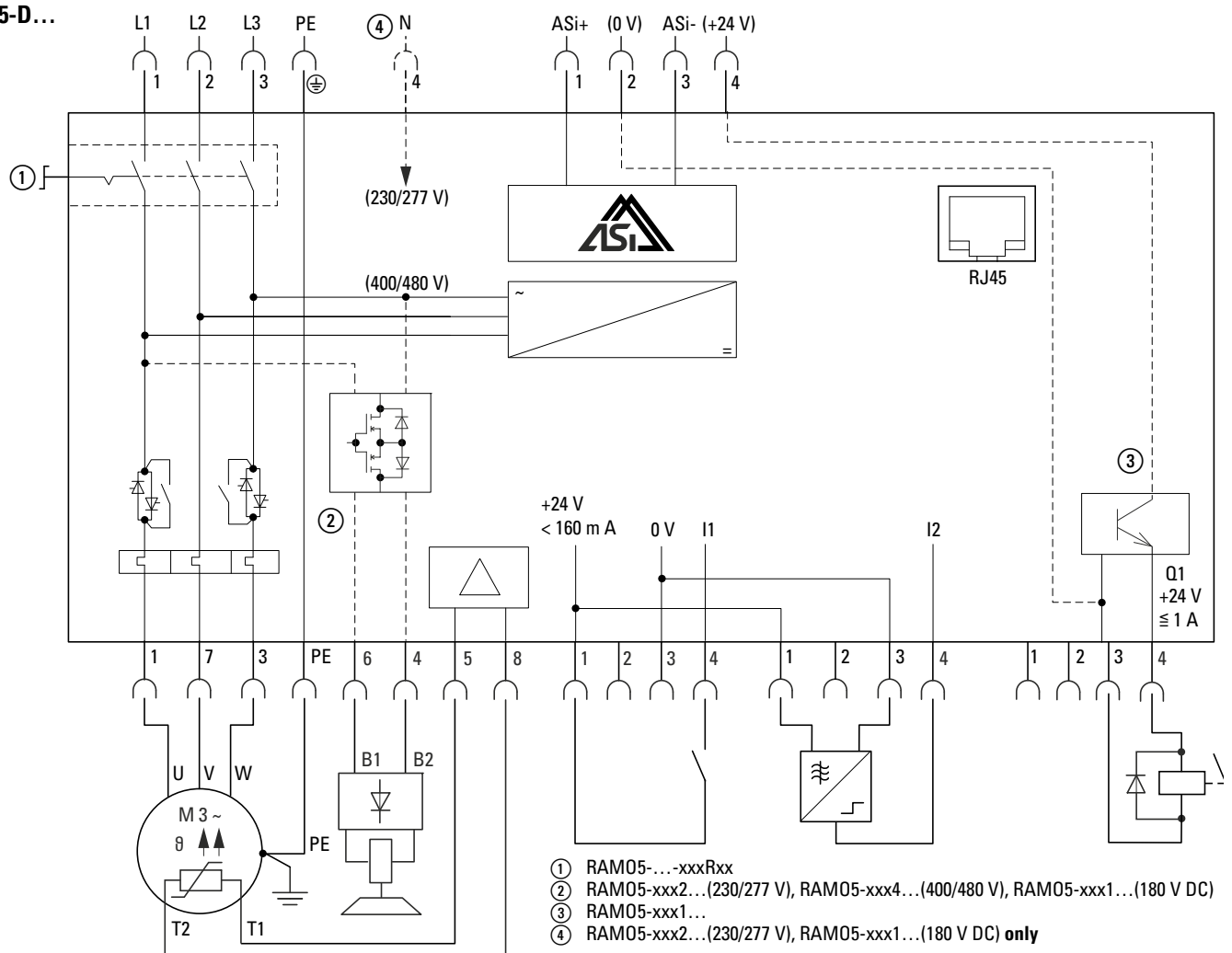
→ Driver
→ DrivesConnect



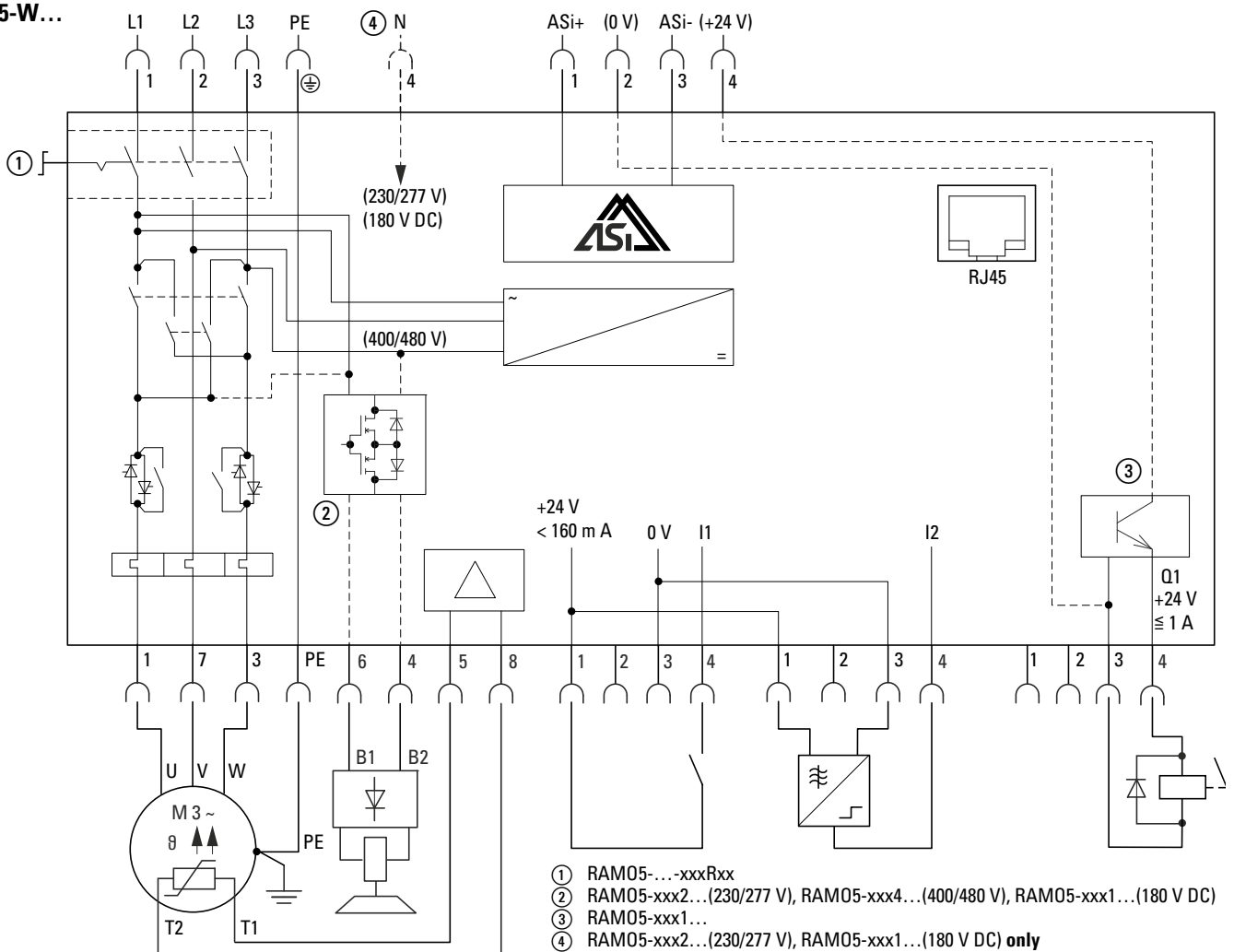
drivesConnect mobile

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RAM05-D...



RAM05-W...



UL[®] Cautions, Warnings and Instructions

UL[®] File: E251034
UL61800-5-1
CSA C22.2 No 274

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.

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.

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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