EATON
Powering Business Worldwide

10/12 IL04020009Z

Instruction Leaflet
Montageanweisung
Notice d'installation
Instrucciones de montaje
Istruzioni per il montaggio
安装说明
Инструкция по монтажу
Montagehandleiding
Montagevejledning
Οδηγίες εγκατάστασης
Instruções de montagem
Monteringsanvisning
Asennusohje
Návod k montáži
Paigaldusjuhend
Szerelési utasítás
Montāžas instrukcija
Montavimo instrukcija
Instrukcja montażu
Navodila za montažo
Návod na montáž
Монтажни инструкции
Instrucțiuni de montaj

(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!**
Uitsluitelijk deskundigen in elektriciteit en elektrotechnisch geinstrueerde personen is het toegestaan, de navolgend beschrevene werkzaamheden uit te voeren.

(da) **Livsfare på grund af elektrisk strøm!**
Kun uddannede el-installatører og personer der e 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 electrotécnica 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 smějí provádět pouze osoby s elektrotechnickým vzděláním.

(et) **Eluohtlik! 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 elektrotehniskām 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 odpowiednio poinstruowane w zakresie elektrotechniki.

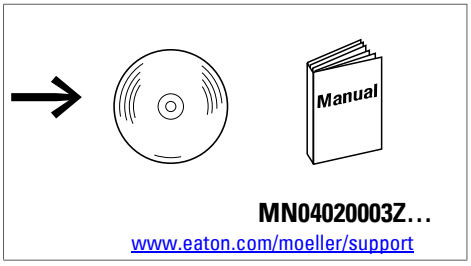
(sl) **Življenjska nevarnost zaradi električnega toka!**
Spodaj opisana dela smejo izvajati samo elektrostrokovnjaki in elektrotehnično poučene osebe.

(sk) **Nebezpečenstvo ohrozenia života elektrickým prúdom!**
Práce, ktoré sú nižšie opísané, smú vykonávať iba elektroodborníci a osoby s elektrotechnickým vzdelaním.

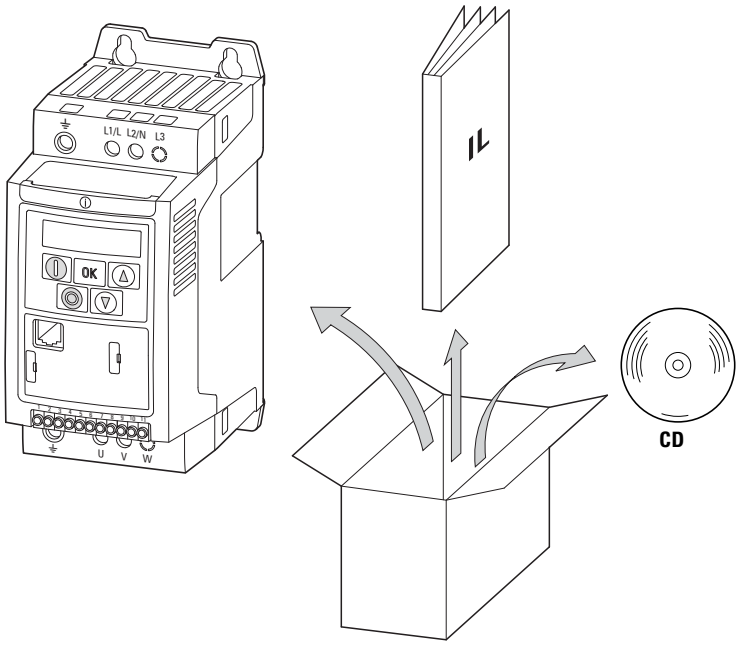
(bg) **Опасност за живота от електрически ток!**
Операциите, описани в следващите раздели, могат да се извършват само от специалисти-електротехници и инструктиран електротехнически персонал.

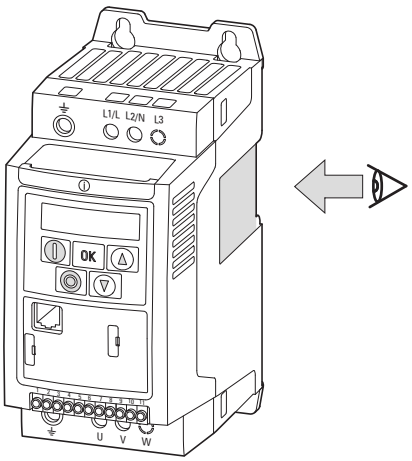
(ro) **Atenție! Pericol electric!**
Toate lucrările descrise trebuie efectuate numai de personal de specialitate calificat şi de persoane cu cunoştiinţe profunde în electrotehnică.

DC1-1D…
DC1-12…
DC1-32…
DC1-34…



MN04020003Z…
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DC1- x y zzz F N - A20N

20 = IP20, NEMA 0

B = Brake chopper (DC+, BR)
N = No Brake chopper

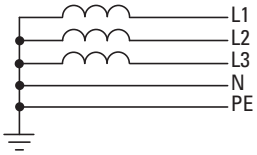
F = EMC Filter (RFI)
N = No EMC Filter

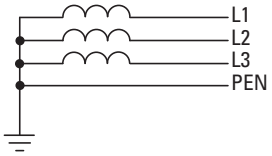
I_e
2D2 = 2.2 A
024 = 24 A

U_{LN} (Mains), 50/60 Hz
1 = 110 V (110 - 115 V ±10 %)
2 = 230 V (200 - 240 V ±10 %)
4 = 400 V (380 - 480 V ±10 %)
D = Doubler: 110 V (Mains) → 230 V (Motor)

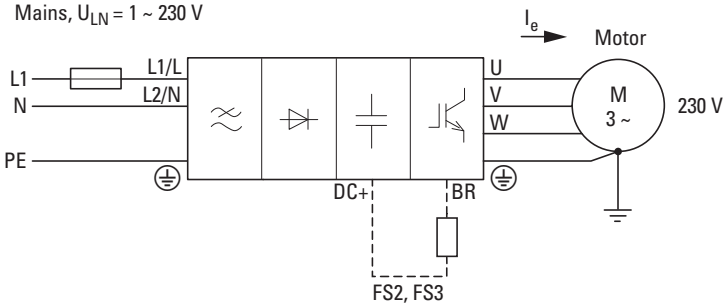
Mains → Motor
1 = 1 AC → 3 AC
3 = 3 AC → 3 AC

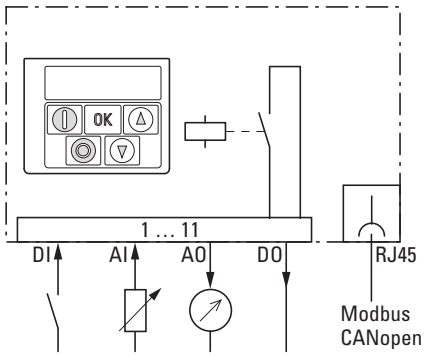
Mains (TN, TT)



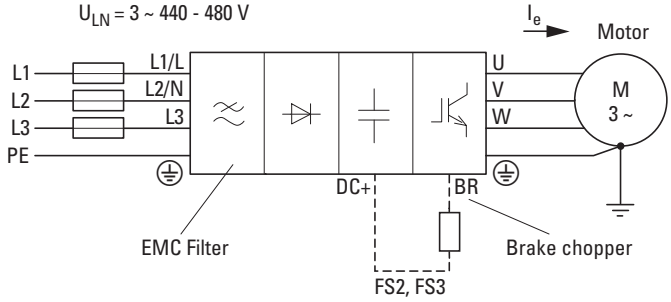


DC1-12…
Mains, U_{LN} = 1 ~ 230 V



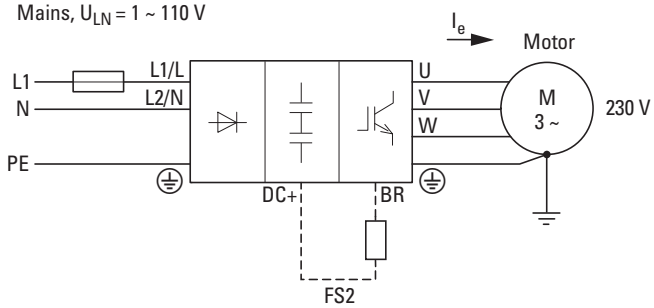


DC1-32…
Mains, U_{LN} = 3 ~ 230 V
DC1-34…
Mains, U_{LN} = 3 ~ 400 V
U_{LN} = 3 ~ 440 - 480 V



230 V (U_{LN} = 3 ~ 230 V)
400 V (U_{LN} = 3 ~ 400 V)
440 - 480 V (U_{LN} = 3 ~ 480 V)

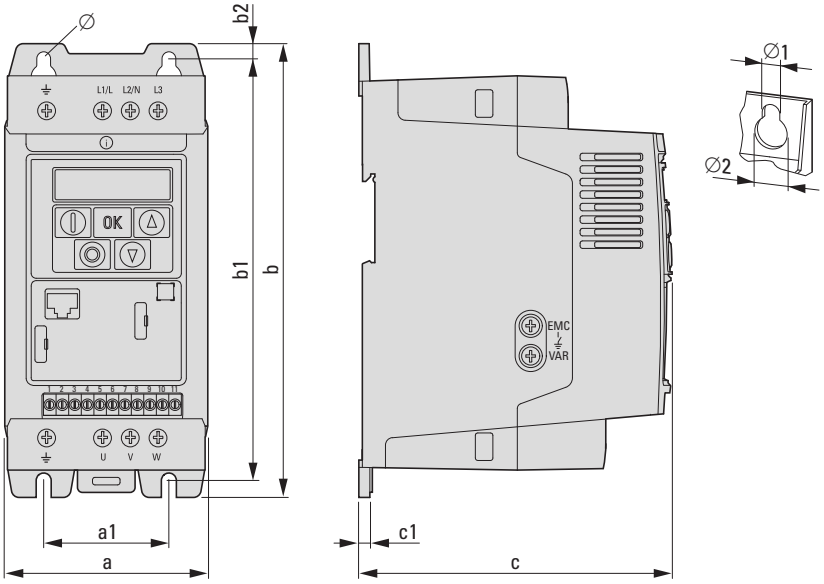
DC1-1DzzzN…
Mains, U_{LN} = 1 ~ 110 V



10/12 IL04020009Z

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(en) **Dimensions and weights**
(de) **Abmessungen und Gewichte**
(fr) **Encombrements et poids**
(es) **Dimensiones y pesos**
(it) **Dimensioni e pesi**
(zh) **尺寸和重量**
(ru) **Размеры и вес**
(nl) **Afmetingen en gewichten**
(da) **Mål og vægt**
(el) **Διαστάσεις και βάρη**
(pt) **Medições e pesos**
(sv) **Dimensioner och vikter**
(fi) **Mitat ja painot**
(cs) **Rozměry a hmotnosti**
(et) **Mõõtmed ja kaalud**
(hu) **Méretek és Súly**
(lv) **Izmēri un svars**
(lt) **Matmenys ir svoriai**
(pl) **Wymiary i masy**
(sl) **Dimenzije in teže**
(sk) **Rozmery a hmotnosti**
(bg) **Размери и тегло**
(ro) **Dimensiuni şi greutăţi**



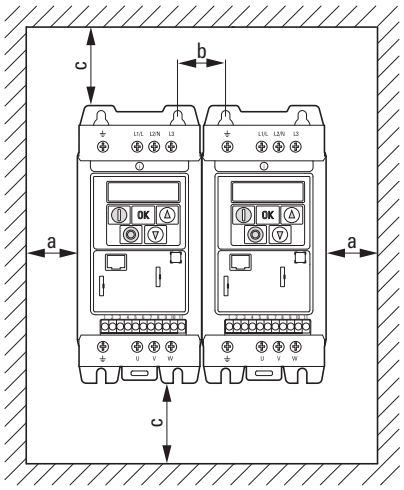
[mm (in)]

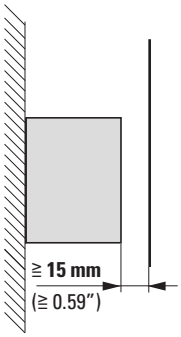
FS		a	a1	b	b1	b2	c	c1	Ø 1	Ø 2	kg (lbs)
FS1	DC1-12… DC1-32… DC1-34… DC1-1D…	81 (3.19)	50 (1.97)	184 (7.24)	170 (6.69)	7 (0.28)	124 (4.88)	4 (0.16)	6 (0.24)	12 (0.47)	1.1 (2.43)
FS2	DC1-12… DC1-32… DC1-34… DC1-1D…	107 (4.21)	75 (2.95)	231 (9.09)	215 (8.46)	8 (0.31)	152 (5.98)	5 (0.2)	6 (0.24)	12 (0.47)	2.6 (5.73)
FS3	DC1-12… DC1-32… DC1-34…	131 (5.16)	100 (3.94)	273 (10.75)	255 (10.04)	8.5 (0.33)	175 (6.89)	5 (0.2)	6 (0.24)	12 (0.47)	4 (8.82)

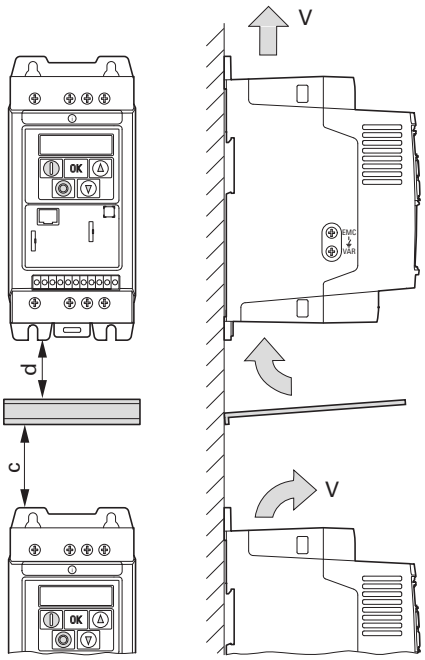
→ 1 inch = 25.4 mm
1 mm = 0.0394 inch
1 inch = 1''

10/12 IL04020009Z

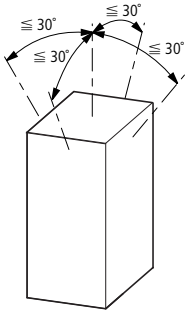
(en) **Mounting** (it) **Montaggio** (da) **Montering** (fi) **Asennus** (lv) **Montāža** (sk) **Montáž**
(de) **Montage** (zh) **安装** (el) **Τοποθέτηση** (cs) **Montáž** (lt) **Montavimas** (bg) **Монтаж**
(fr) **Montage** (ru) **Монтаж** (pt) **Montagem** (et) **Paigaldamine** (pl) **Montaż** (ro) **Montarea**
(es) **Montaje** (nl) **Montering** (sv) **Montering** (hu) **Felszerelése** (sl) **Montaža**

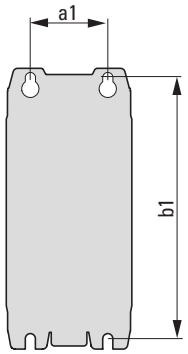


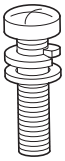


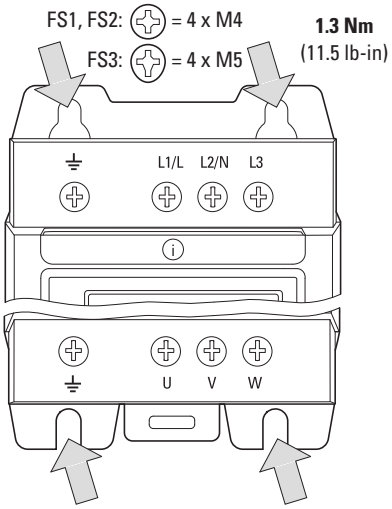


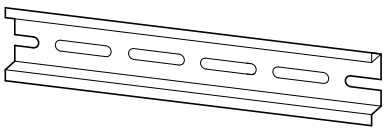
	a mm (in)	b mm (in)	c mm (in)	V m^3/h (cfm)
FS1	50 (1.97)	46 (1.81)	75 (2.95)	18.69 (11)
FS2	50 (1.97)	46 (1.81)	75 (2.95)	18.69 (11)
FS3	50 (1.97)	52 (2.05)	100 (3.94)	44.17 (26)



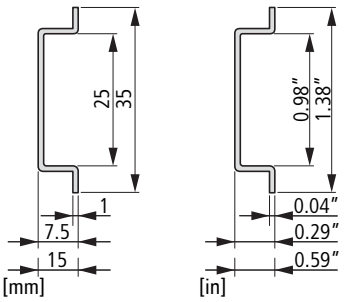


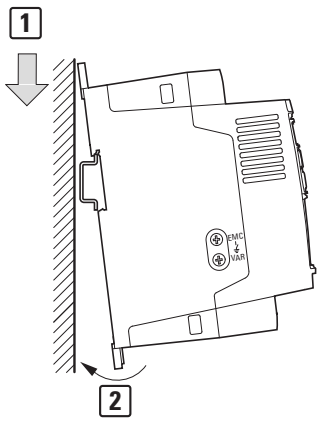


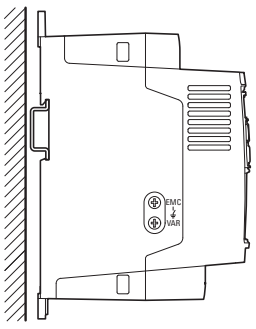


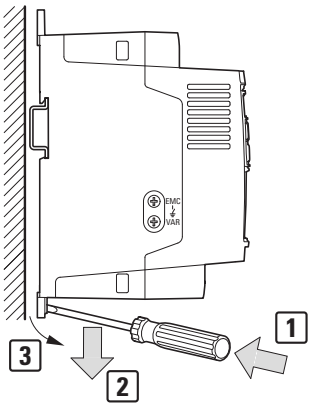


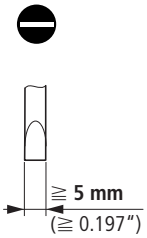
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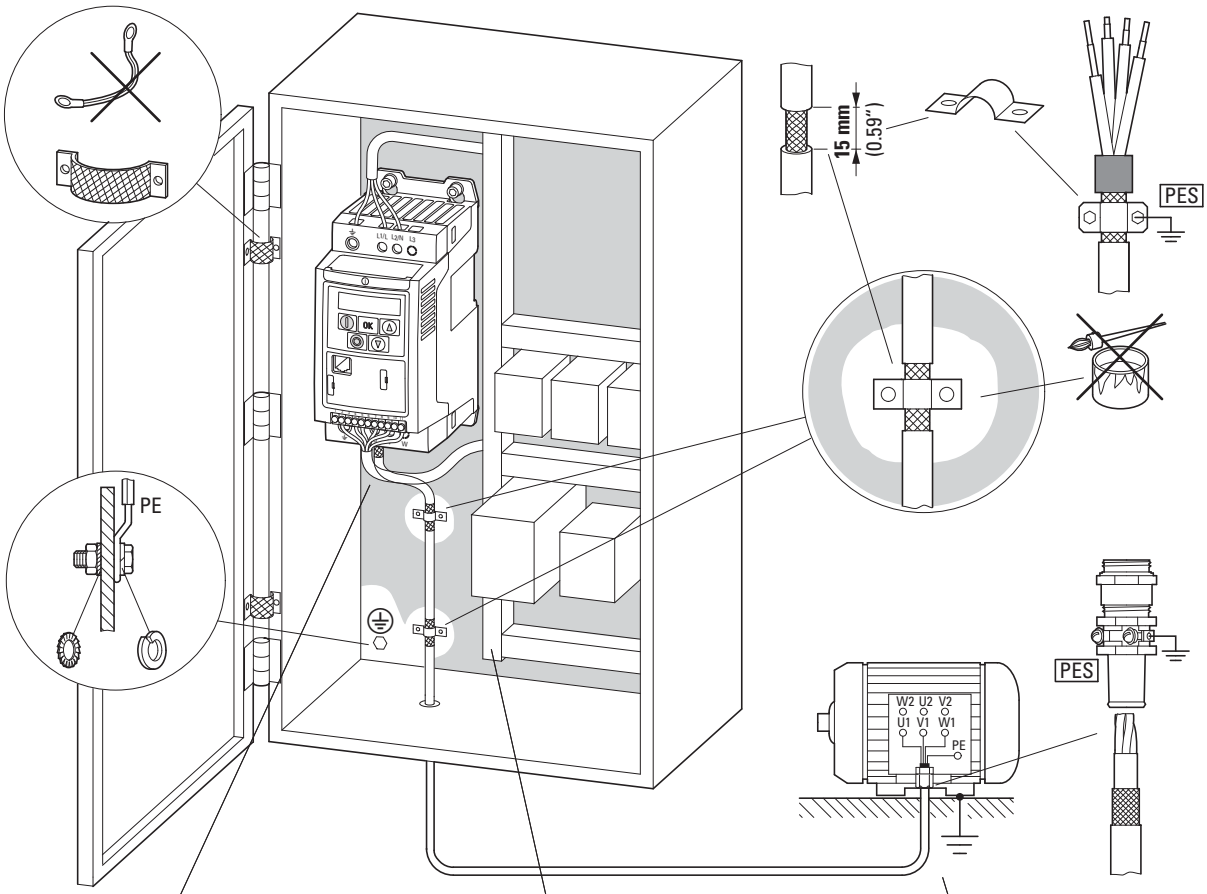


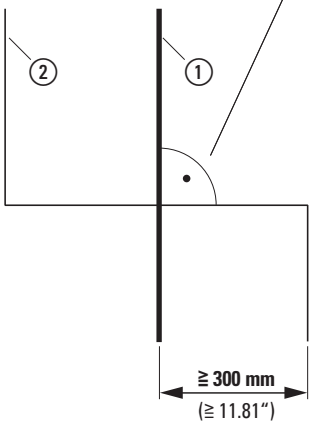


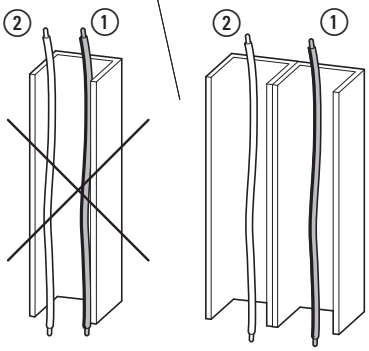


10/12 IL04020009Z

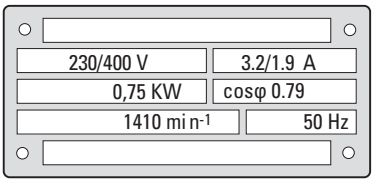
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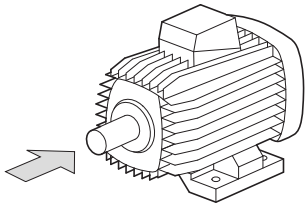


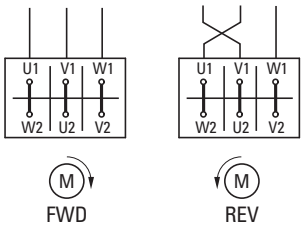


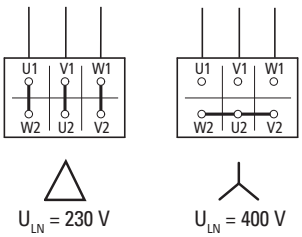
DC1	Motor
U	U1
V	V1
W	W1



(1) Power: L1, L2, L3, N, PE, U, V, W, DC+, DC-, RB
(2) Control: 1, 2, … 11, Modbus, CANopen







U_{LN} = 230 V

U_{LN} = 400 V

10/12 IL04020009Z

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

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

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

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

(it) *AVVISO*
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) *OPGELET*
Alleen in spanningsloze toestand aansluiten!

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

(el) *ΕΠΑΓΡΥΠΝΗΣΗ*
Συνδέστε μόνο όταν δεν επικρατεί τάση!

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

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

(fi) *ILMOITUS*
Kytke vain jännitteettömässä tilassa!

(cs) *UPOZORNĚNÍ*
Připojujte jen při zcela odpojeném napájení!

(et) *TÄHELEPANU*
Ühendada ainult pingevabas olekus!

(hu) *FIGYELEM*
Csak feszültségmentes állapotban csatlakoztassa!

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

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

(pl) *UWAGA*
Podłączać zawsze po uprzednim odłączeniu od zasilania elektrycznego!

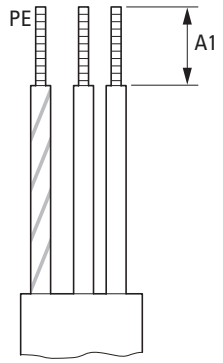
(sl) *POZOR*
Napravo priključite le, ko ni pod napetostjo!

(sk) *UPOZORNRNIE*
Napájať len v stave bez napätia!

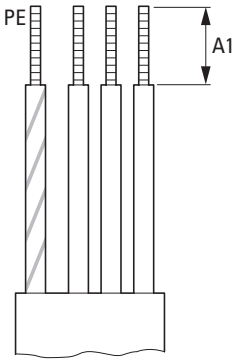
(bg) *ПРЕДУПРЕЖДЕНИЕ*
Свързвайте само, когато уреда не е под напрежение!

(ro) *ATENTJE*
Conectați doar când aparatul nu se află sub tensiune!

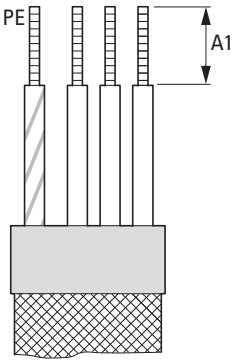
Mains 1 ~



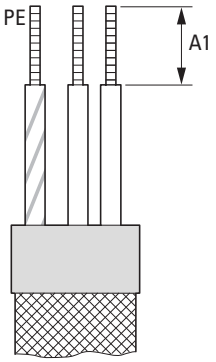
Mains 3 ~



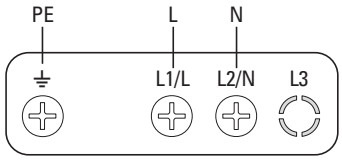
Motor



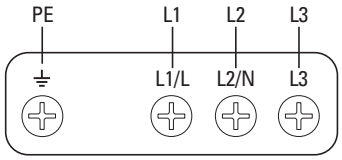
Brake Resistor



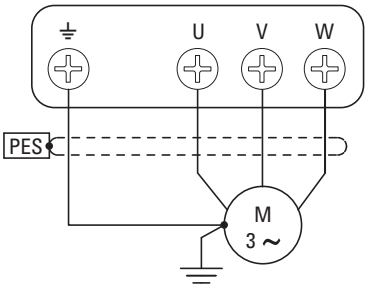
FS1
A1 = 8 mm (0.31")



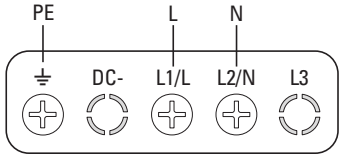
DC1-1D…, DC1-12…



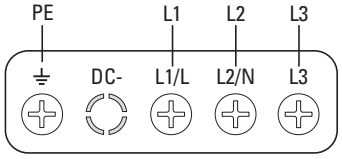
DC1-32…, DC1-34…



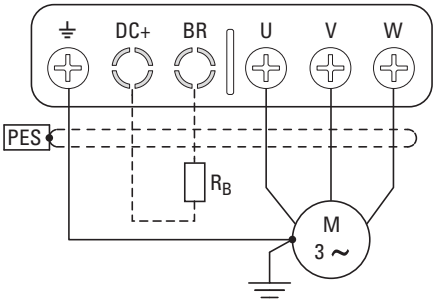
FS2
FS3
A1 = 10 mm (0.39")

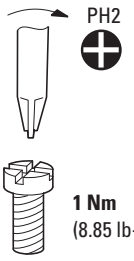


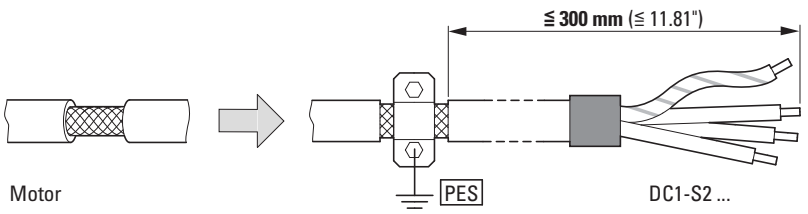
DC1-1D…, DC1-12…



DC1-32…, DC1-34…

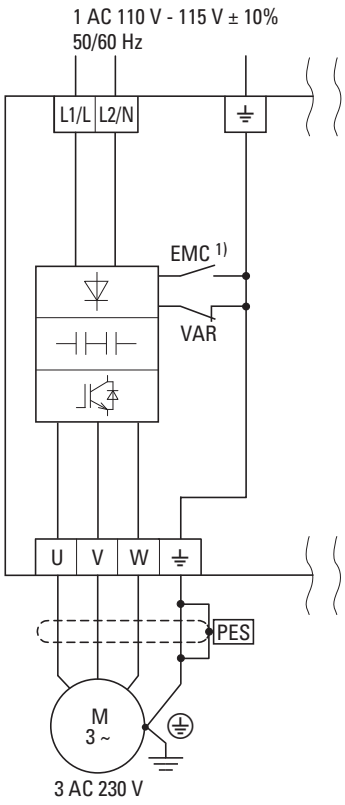




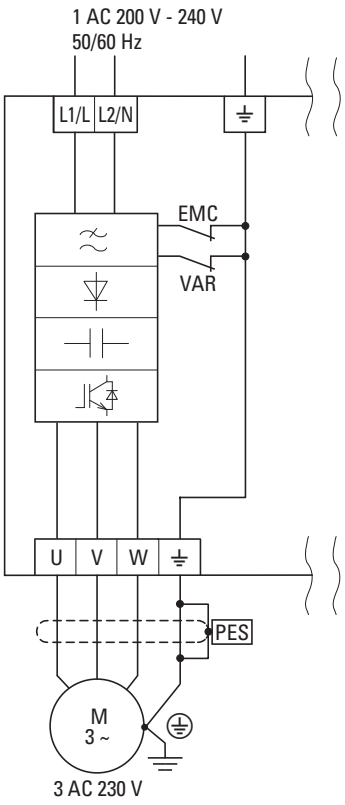


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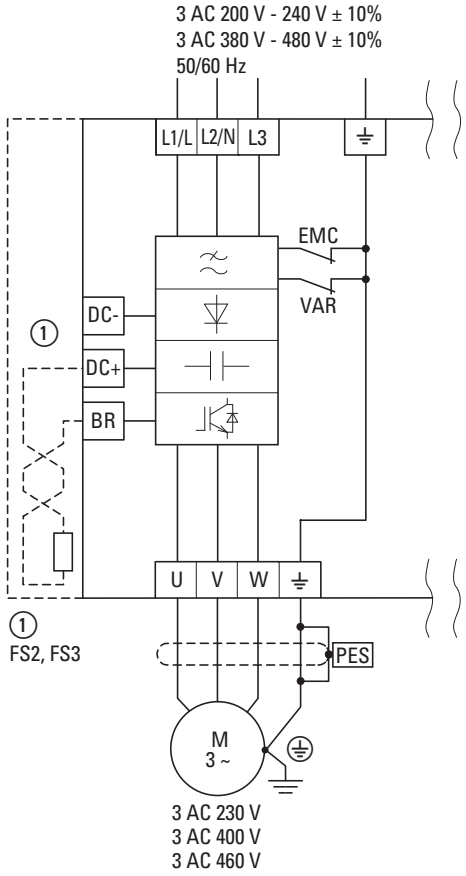
DC1-1DxxxN…

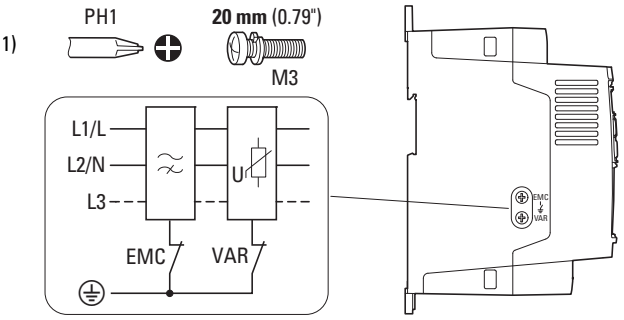


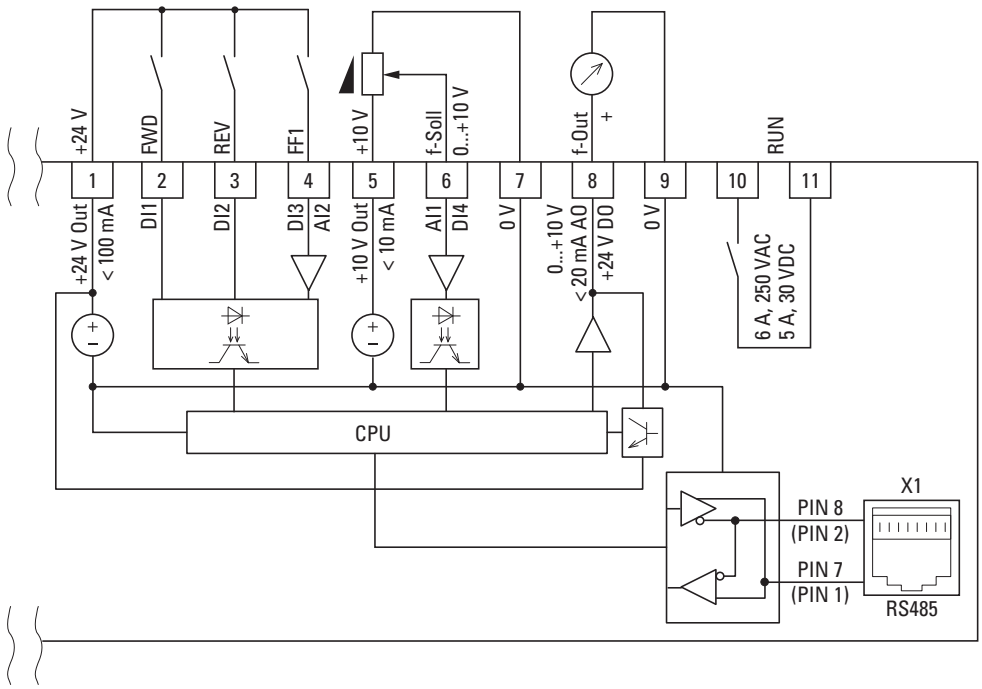
DC1-12…



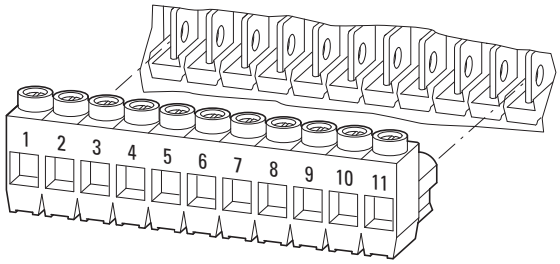
DC1-32…
DC1-34…

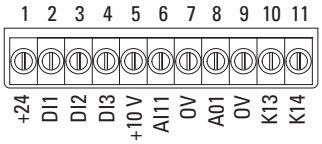




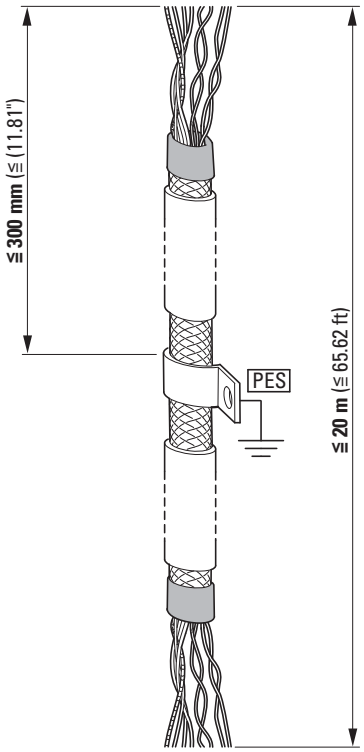


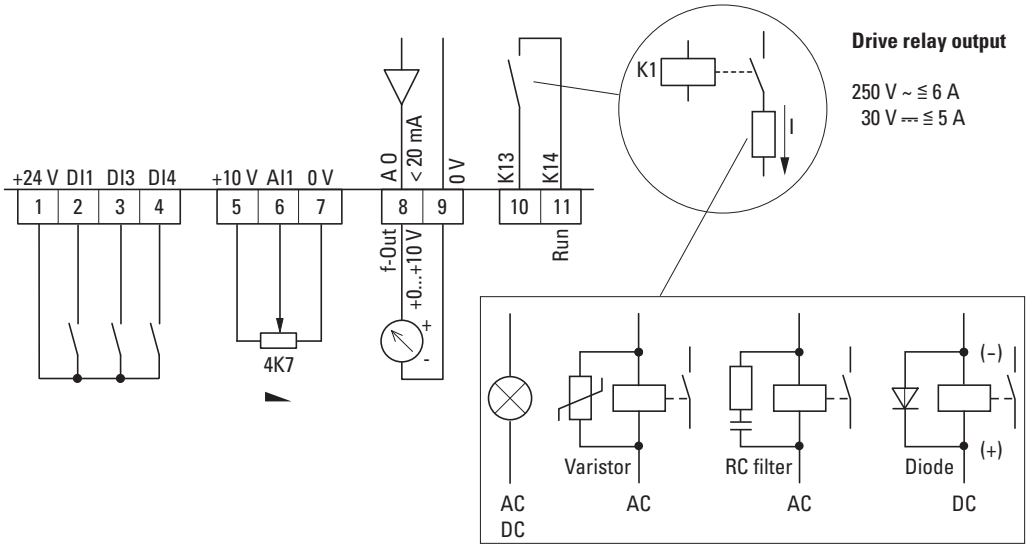
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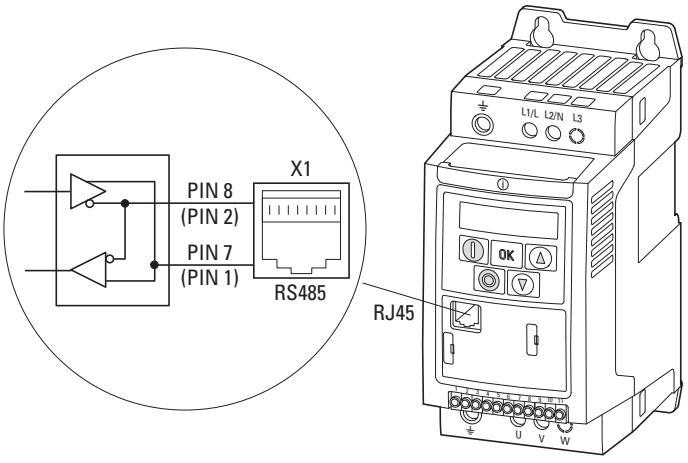




mm²	mm²	AWG	mm	in	M3 Nm	lb-in	mm
0.25 - 0.5	0.14 - 1.5	26 - 16	5	0.2	0.5	4.43	0.4 x 2.5







PIN 1	CANopen -
PIN 2	CANopen +
PIN 7	Modbus RTU -
PIN 8	Modbus RTU +

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(en) CAUTION

In the territory of the EU Directive the frequency-controlled devices and their accessories must be taken into operation only when the machine has been determined to filfil the protection requirements of Machinery Safety Directive 89/392/EEC.

Ensure EMC-compliant installation. Lay control and communication cables spatially separated from the motor cable. Ensure a large contact area connection between PES cable screen and PE.

(de) VORSICHT

Im Geltungsbereich der EG-Richtlinien dürfen die frequenzgesteuerten Geräte und deren Zubehör nur dann in Betrieb genommen werden, wenn festgestellt wird, dass die Maschine die Schutzanforderungen der Maschinenrichtlinie 89/392/EWG erfüllt.

EMV-gerechter Aufbau. Steuer- und Netzleitungen räumlich getrennt von der Motorleitung verlegen. PES Leitungsschirm großflächig mit PE verbinden.

(fr) AVVERTISSEMENT

En application des directives européennes, les convertisseurs de fréquence et leurs accessoires ne doivent être mis en service que s'il a été vérifié que la machine répond aux exigences de la directive machines 89/392/CEE.

Montage conforme aux règles de la CEM. Eloigner les câbles de commande et de réseau des câbles puissance. Relier le blindage au PE en assurant de grandes surfaces de contact.

(es) ATENCIÒN

En el campo de aplicación de la normativa CE, los dispositivos controlados por frecuencia y sus correspondientes accesorios sólo deberán ponerse en marcha cuando se asegure que la máquina cumple con las exigencias de seguridad de la normativa de máquinas 89/392/CEE.

El montaje debe cumplir CEM. Los cables de mando y de conexión a red se deben instalar independientemente del cable de conexión al motor. El cable apantallado PES se debe conectar a masa utilizando una amplia superficie de contacto.

(it) ATTENZIONE

Nel campo di validità delle direttive CE, gli apparecchi a controllo di frequenza e i loro accessori possono essere messi in esercizio soltanto se si verifica che la macchina soddisfa i requisiti di sicurezza della direttiva macchine 89/392/CEE

Montaggio secondo CEM. Disporre i cavi comandi e di alimentazione separati dal cavo del motore. Collegare lo schermo del cavo PES con PE con un'ampia superficie.

(zh) 小心

根据欧盟设备一致性规范，安装频率控制设备及其配件时，应确保设备满足机器规范 89/392/EWG 中关于设备保护的要求。

PES 按照电磁兼容规范正确安装。应将控制电缆和电源电缆与电机电缆分开。大面积采用 PE 包裹电缆。

(ru) ОСТОРОЖНО

В сфере действия директив ЕС устройства с частотным управлением и их оснащение должны вводиться в эксплуатацию только в том случае, если установлено, что данное оборудование соответствует требованиям по защите Директивы о машинном оборудовании 89/392/EWG.

Сборка соответственно электромагнитной совместимости. Линии управления и электросети прокладывать в пространственном отношении отдельно от линии двигателя. PES силовой экран соединять с PE по большой площади.

(nl) VOORZICHTIG

Binnen het geldigheidsgebied van de EC-richtlijnen mogen de frequentiegeregelde apparaten en de toebehoren daarvan alleen in bedrijf worden genomen, wanneer wordt vastgesteld, dat de machine aan de veiligheidseisen van de machinerichtlijn 89/392/EWG voldoet.

EMC-conforme constructie. Besturings- en netkabels ruimtelijk gescheiden van de motorkabel leggen. PES Kabelafscherming over groot oppervlak met PE verbinden.

(da) FORSIGTIG

I det område, hvor EF-direktiverne er gældende, må det frekvensstyrede udstyr og dets tilbehør kun tages i anvendelse, hvis det konstateres, at maskinen opfylder beskyttelseskravene i maskindirektivet 89/392/EØF.

EMC-korrekt installation. Træk styre- og netledninger rumligt adskilt fra motorledningen. PES Sørg for en stor kontaktflade mellem PES ledningsafskærmning og PE.

(el) ΠΡΟΣΟΧΗ

Στο πεδίο εφαρμογής των οδηγιών της ΕΚ, οι ελεγχόμενες μέσω συχνότητας συσκευές και τα παρελκόμενά τους επιτρέπεται να τίθενται σε λειτουργία μόνο εφόσον διαπιστωθεί ότι το μηχάνημα πληροί τις απαιτήσεις προστασίας της οδηγίας της ΕΚ για τα μηχανήματα 89/392/ΕΟΚ.

Κατασκευή σύμφωνα με τις απαιτήσεις ΗΜΣ. Εγκαθιστάτε τους αγωγούς ελέγχου και δικτύου ανεξάρτητα από τον αγωγό του κινητήρα. PES Συνδέετε τη θωράκιση των αγωγών σε μεγάλη επιφάνεια με τη γείωση.

(pt) CUIDADO

No âmbito das directivas da CE, os aparelhos comandados por frequência e os respectivos acessórios só podem ser postos em operação se for comprovado que a máquina atende às exigências de protecção da directiva de máquinas 89/392/CE.

Estrutura com compatibilidade electromagnética. Dispor os fios de comando e de rede separados do fio do motor. PES Ligar uma área grande da blindagem do cabo (PES) com o PE.

(sv) FÖRSIKTIG

I giltighetsområdet för EG-direktiven får de frekvensstyrda apparaterna och deras tillbehör endast tagas i drift när man fastställt att maskinen uppfyller skyddskraven i maskindirektiv 89/392/EEC.

EMC-anpassad uppbyggnad. Styr- och nätledningar dras avskilda från motorledningarna. PES Förbind ledningsskärm över ett brett område med PE.

(fi) HUOMIO

EU-direktiivien voimassaoloalueella taajuusohjatut laitteet ja niiden varusteet saa ottaa käyttöön vain silloin, kun todetaan, että kone täyttää konedirektiivin 89/392/ETY suojausvaatimukset.

EMC-mukainen rakenne. Ohjaus- ja verkkojohdot on asennettava tilaulotteisesti erotettuina. Johdonsuoja on liitettävä laajasti maadoitukseen PES.

(cs) POZOR

V rozsahu platnosti směrnic ES smí být frekvenčně řízené přístroje a jejich příslušenství uvedeny do provozu jedině tehdy, pokud je zjištěno, že stroj splňuje požadavky ochrany stanovené směrnicí 89/392/EHS o strojních zařízeních.

Nástavba odpovídající směrnici EMC. Řídicí a síťová vedení pokládejte prostorově oddělená od vedení motoru. PES Stínění vedení spojte velkoplošně s PE.

(et) ETTEVAATUST

EÜ-direktiivi kehtivuspiirkonnas võib sagedusjuhitavaid seadmeid ja nende lisaseadmeid kasutusele võtta ainult siis, kui on kindlaks tehtud, et masin vastab masinadirektiivi 89/392/EMÜ kaitsenõuetele.

Elektomagnetilisele ühilduvusele vastav ehitus. Juhtimis- ja võrgukaablid paigaldada mootori toitekaablist ruumiliselt eraldatuna. PES Kaabli kaitseekraan ühendada ulatuslikult talitlusmaandusega.

(hu) VIGYÁZAT

Az EK irányelvek hatályossági területén a frekvenciavezérelt készülékeket és azok tartozékait csak akkor szabad üzembe helyezni, ha megállapítást nyert, hogy a gép megfelel a gépek biztonságáról szóló, 89/392/EGK számú irányelv biztonsági követelményeinek.

Elektromágnesesen összeférhető kivitelt biztosítson. A motorvezetékektől térben elkülönítve vezesse vezérlő és hálózati vezetékeket. PES Nagy felületen csatlakoztassa a védőföldeléshez a vezetékárnyékolást.

(lv) IEVĒROT PIESARDZĪBU

Valstīs, kurās ir spēkā EK direktīvas, ierīču ar frekvenčvadību un to piederumu ekspluatāciju drīkst sākt tikai tad, ja ir konstatēta iekārtas atbilstība Mašīnu direktīvā 89/392/EEK ietvertajām aizsardzības prasībām.

EMS atbilstoša uzbūve. Vadības un tīkla kabeļus izvietot atsevišķi no motora kabeļa. PES Vada ekrānu plašā virsmā savienot ar PE.

(lt) ATSARGIAI

EB direktyvų taikymo srityje dažniniu būdu valdomus įrenginius ir jų priedus leidžiama pradėti naudoti tik tada, kai nustatoma, kad įrenginys atitinka Mašinų direktyvos 89/392/EEB keliamus apsaugos reikalavimus.

Montažas turi atitikti EMS reikalavimus. Valdymo ir duomenų tinklo kabelius išdėstyti atokiai nuo variklio kabelio. PES Kabelio ekraną dideliu paviršiumi sujungti su įžeminimu.

(pl) OSTROŻNIE

Na obszarze obowiązywania dyrektyw WE urządzenia sterowane częstotliwościowo wolno wprowadzać do eksploatacji tylko wtedy, gdy zostanie stwierdzone, że maszyna spełnia wymagania ochronne dyrektywy maszynowej 89/392/EWG.

Konstrukcja zgodna z dyrektywą w sprawie kompatybilności elektromagnetycznej (EMC). Przewody sterowania i zasilania elektrycznego należy układać oddzielnie od przewodu silnika. PES Ekranowanie połączyć z przewodem uziemiającym na większej powierzchni.

(sl) PREVIDNO

Na območju veljavnosti direktiv ES je zagon frekvenčno krmiljenih naprav in njihovega pribora dovoljen le tedaj, ko je bilo ugotovljeno, da stroj ustreza varnostnim zagtevam Direktive o strojih 89/392/EGS.

Montaža v skladu z EMZ. Krmilne in omrežne vodnike napeljite ločeno od vodnikov motorja. PES Oklep vodnika na veliki površini povežite z zaščitnim vodnikom.

(sk) VÝSTRAHA

V krajinách, ktoré spadajú pod pôsobnosť smerníc ES smú byť rádiovo ovládané zariadenia a ich príslušenstvo uvedené do prevádzky len ak je zabezpečené, že stroj spĺňa ochranné ustanovenia smernice č. 89/392/EHS o strojových zariadeniach.

Montáž v súlade s požiadavkami elektromagnetickej kompatibility. Ovládacie a sieťové vedenia uložte v priestore oddelene od vedenia motora. PES Zabezpečte veľkú kontaktnú plochu medzi káblovým tienením a PE.

(bg) ВНИМАНИЕ

В сферата на действие на изискванията на ЕС устройствата с честотно управление и техните допълнителни устройства могат да бъдат приведени в употреба, само ако се установи, че оборудването съответства на изискванията за безопасност на машинно оборудване спрямо 89/392/EWG.

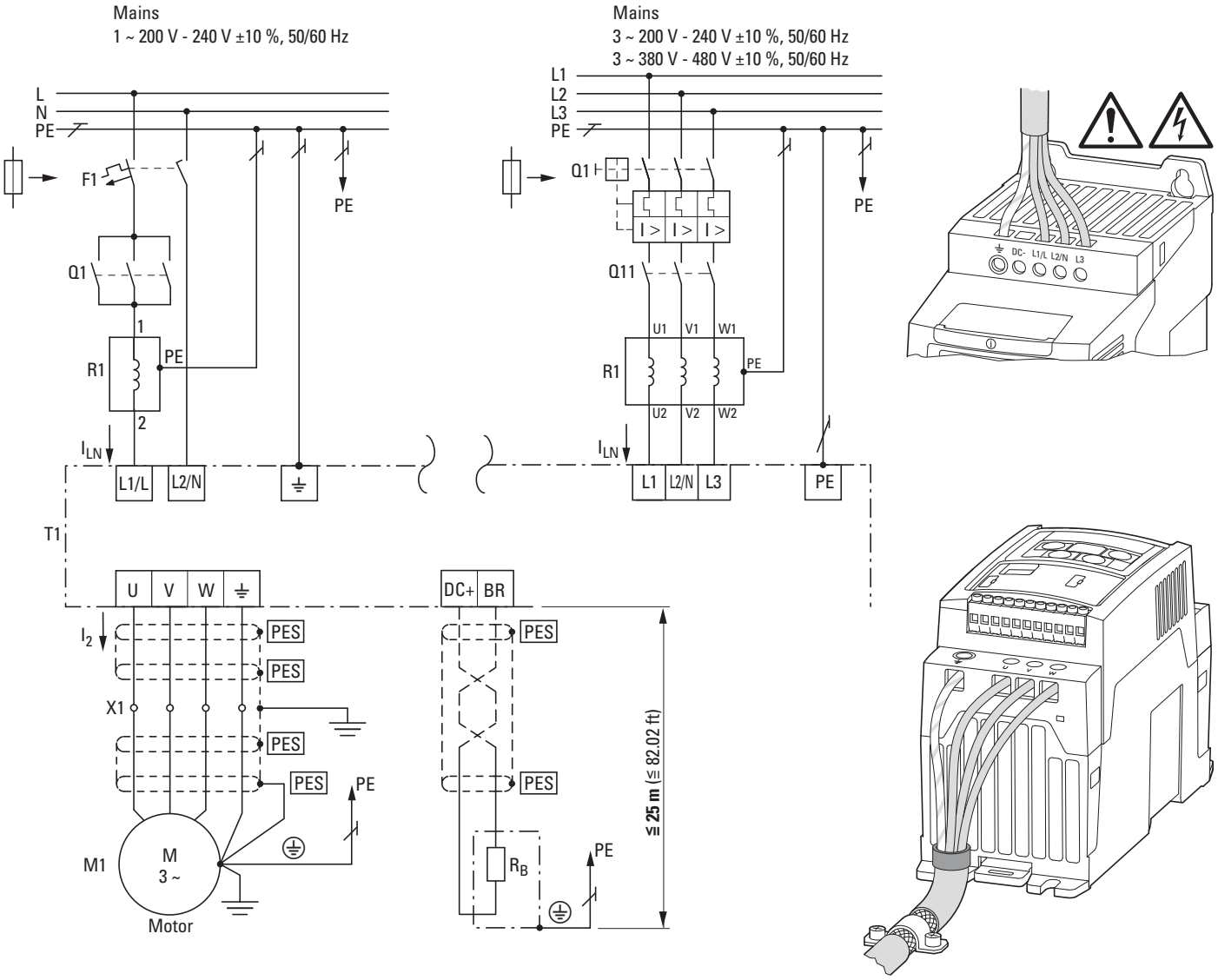
Монтаж с електромагнитна съвместимост. Полагане на контролните и мрежови проводници пространствено отделно от проводника на двигателя. PES Осигурете по-голяма конкактна площ между силовия екран и PE.

(ro) PRECAUTJE

În cadrul sferei de aplicare a directivelor UE dispozitivele controlate prin frecvenţă şi accesoriile acestora au voie să fie puse în funcţiune doar dacă se stabileşte că aparatul îndeplineşte cerinţele Directivei 89/392/CEE privind maşinile.

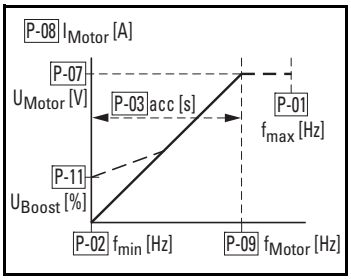
Montajul trebuie să fie compatibil EMC. Poziţionaţi cablurile de control şi de reţea la distanţă de cablul motorului. PES Asiguraţi o suprafaţă de contact mare între izolaţia cablului şi PE.

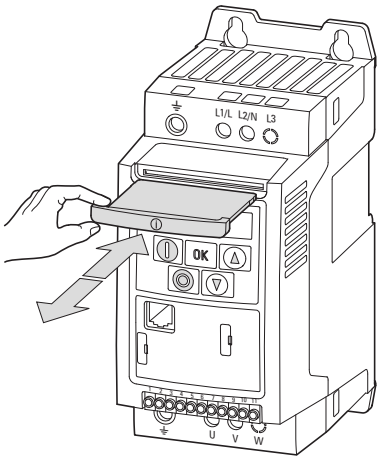
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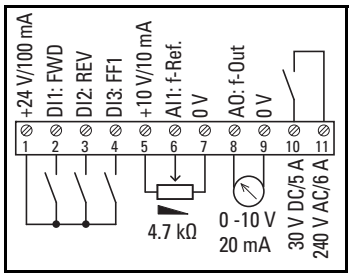


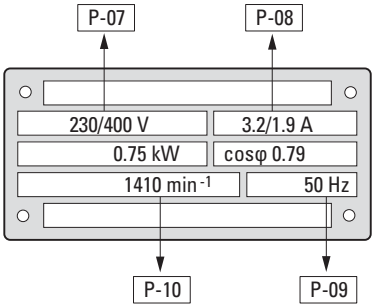
Typ	Frame Size	I_{LN}	F1/Q1 MCB (type B)	Mains		I_2	Motor		P		R_B		
		A	A	mm^2	AWG	A	mm^2	AWG	kW	HP	Ω	mm^2	AWG
DC1-12011…	FS2	19.5	25	4	10	10.5	1.5	16	2.2	3	47	1.5	16
DC1-12015…	FS3	30.5	40	6	8	15	2.5	14	4	5	47	1.5	16
DC1-122D3…	FS1	5	10	1.5	16	2.3	1.5	16	0.37	0.5	-	-	-
DC1-124D3…	FS1, FS2	8.5	10	1.5	16	4.3	1.5	16	0.75	1	47	1.5	16
DC1-127D0…	FS1, FS2	13.9	16 (15)	2.5	14	7	1.5	16	1.5	2	47	1.5	16
DC1-1D2D3…	FS1	11	16 (15)	2.5	14	2.3	2.5	14	0.37	0.5	-	-	-
DC1-1D4D3…	FS1	19	25	4	10	4.3	4	12	0.75	1	-	-	-
DC1-1D5D8…	FS2	25	32 (35)	6	8	5.8	6	10	1.1	1.5	47	1.5	16
DC1-32018…	FS3	18.8	20	4	12	18	2.5	14	4	5	47	1.5	16
DC1-32024…	FS3	24.8	32 (35)	6	8	24	6	10	5.5	7.5	47	1.5	16
DC1-322D3…	FS1	3	6	1.5	16	2.3	1.5	16	0.37	0.5	-	-	-
DC1-324D3…	FS1, FS2	4.5	6	1.5	16	4.3	1.5	16	0.75	1	47	1.5	16
DC1-327D0…	FS1, FS2	7.3	10	1.5	16	7	1.5	16	1.5	2	47	1.5	16
DC1-327D0…	FS2	11	16 (15)	2.5	14	10.5	1.5	16	2.2	3	47	1.5	16
DC1-34014…	FS3	14.6	20	2.5	12	14	2.5	14	5.5	7.5	47	2.5	14
DC1-34018…	FS3	18.1	25	4	10	18	2.5	14	7.5	10	47	2.5	14
DC1-34024…	FS3	24.7	32 (35)	6	8	24	6	10	11	15	47	2.5	14
DC1-342D2…	FS1, FS2	2.4	6	1.5	16	2.2	1.5	16	0.75	1	100	1.5	16
DC1-344D1…	FS1, FS2	4.3	6	1.5	16	4.1	1.5	16	1.5	2	100	1.5	16
DC1-345D8…	FS2	6.1	10	1.5	16	5.8	1.5	16	2.2	3	100	1.5	16
DC1-349D5…	FS2	9.8	16 (15)	2.5	14	9.5	1.5	16	4	5	100	1.5	16

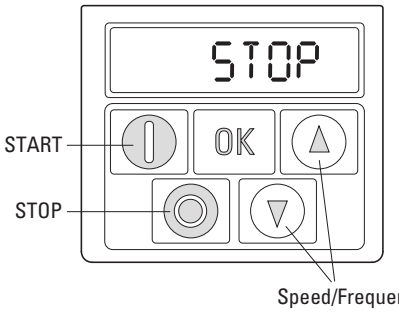
10/12 IL04020009Z

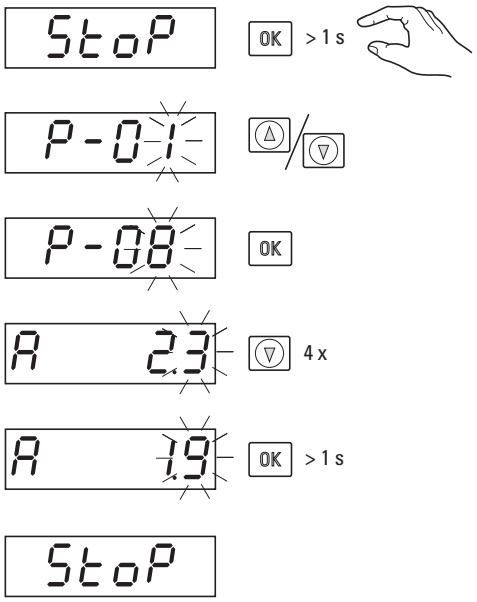


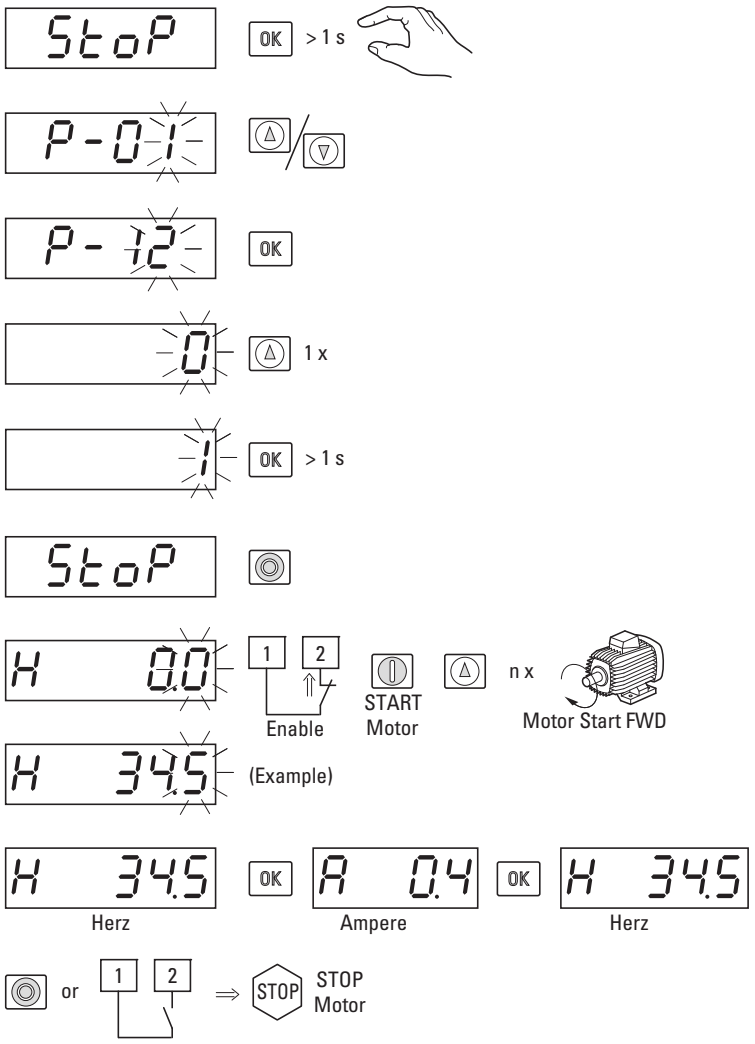












10/12 IL04020009Z

UL® Cautions, Warnings and Instructions

Wiring Warnings for Electrical Practices and Wire Sizes

The Cautions, Warnings, and instructions in this section summarize the procedures necessary to ensure an inverter installation complies with Underwriters Laboratories® guidelines.

NOTICE

Use 60/75 °C Cu wire only or equivalent.

NOTICE

Open Type Equipment.

NOTICE

Suitable for use on a circuit capable of delivering not more than 5,000 rms (AS) symmetrical amperes has:

- 120 V maximum for DC-1D models
- 240 V maximum for DC1-12 and DC1-32 models
- 480 V maximum for DC1-34 models

Circuit Breaker and Fuse Sizes

The adjustable frequency drive's connections to input power must include UL Listed inverse time circuit breakers with 600 V rating, or UL Listed fuses as shown in the table below.

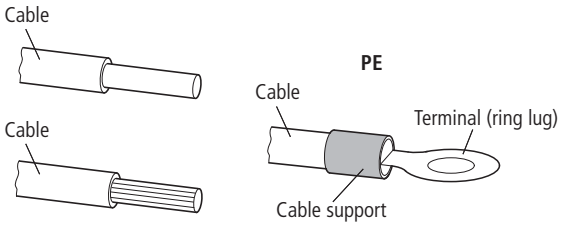
Terminal Tightening Torque and Wire Size

The wire size range and tightening torque for field wiring terminals are presented in the table below.

Wire Connectors

NOTICE

Field wiring connections must be made by a UL Listed and CSA Certified ring lug terminal connector sized for the wire gauge being used. The connector must be fixed using the crimping tool specified by the connector manufacturer.



Motor Overload Protection

DC1 adjustable frequency drives provide solid-state motor overload protection, which depends on the proper setting of the following parameter:
P-08 "current limit".

Set the rated current [Amperes] of the motor(s) with the above parameters. The setting range is 25 % rated current to 100 % rated current,
→ manual MN04020003Z…

NOTICE

When two or more motors are connected to the inverter, they cannot be protected by the electronic overload protection. Install an external thermal relay on each motor.

Inverter Model	Mains Input Voltage	Fuse/Braker (UL-rated, class J, 600 V) A	Wiring Size range AWG	Motor Power kW	HP	Wiring Size Range AWG	Screw Torque Power unit lb-in	Nm
DC1-12011…	220-240 V	25	10	2.2	3	16	9	1
DC1-12015…	Single Phase	40	8	4	5	14		
DC1-122D3…		10	16	0.37	0.5	16		
DC1-124D3…		10	16	0.75	1	16		
DC1-127D0…		15	14	1.5	2	16		
DC1-1D2D3…	110-120 V	15	14	0.37	0.5	14		
DC1-1D4D3…	Single Phase	25	10	0.75	1	12		
DC1-1D5D8…	(Volt Doubler)	35	8	1.1	1.5	10		
DC1-32018…	220-240 V	20	12	4	5	14		
DC1-32024…	Three Phase	35	8	5.5	7.5	10		
DC1-322D3…		6	16	0.37	0.5	16		
DC1-324D3…		6	16	0.75	1	16		
DC1-327D0…		10	16	1.5	2	16		
DC1-327D0…		15	14	2.2	3	16		
DC1-34014…	440-480 V	20	12	5.5	7.5	14		
DC1-34018…	Three Phase	25	10	7.5	10	14		
DC1-34024…		35	8	11	15	10		
DC1-342D2…		6	16	0.75	1	16		
DC1-344D1…		6	16	1.5	2	16		
DC1-345D8…		10	16	2.2	3	16		
DC1-349D5…		15	14	4	5	16		

1) kW @ 230 V/400 V, 50 Hz, 1500 min^{-1}
HP @ 230 V/460 V 60 Hz, 1800 rpm

→ AWG = American Wire Gauge. Smaller numbers represent increasing wire thickness.
MCM/kcmil = 1,000 circular mils, a measure of wire cross-sectional area
mm^2 = square millimeters, a measure of wire cross-sectional area

10/12 IL04020009Z

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