Powering Business Worldwide

10/22 IL04020010Z

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
Upute za montažu
Montaj talimatı
Упутство за употребу
Monteringsanvisning
Інструкція з монтажу
منشـــور التعليمـــات

(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 ogvedligehold 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 eletricista 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) **Eluohtlik! 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 osebje.

(sk) **Nebezpečenstvo 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.

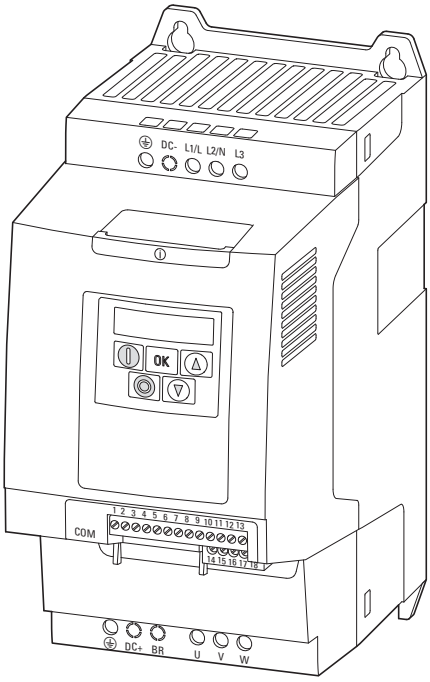
(sr) **Електрична струја! Опасност по живот!**
Арбеитен бзв. Монтажа и диесем Продукт дарф од Електрофацхкрафтен унд електротецхнисцх унтервиесенен Персонен аусгефухрт верден.

(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.

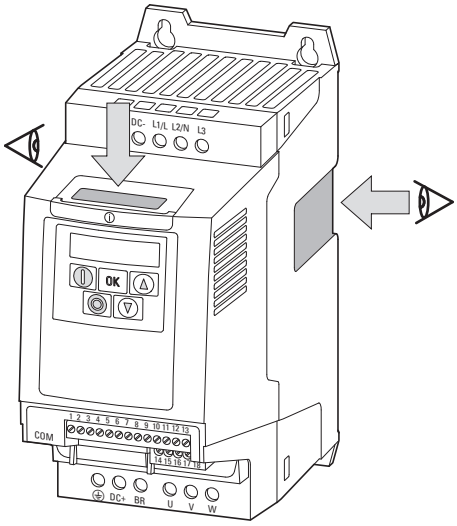
(ar) **! تحـذير ! تيـار كهربـائي ! خطـر مـوت**
التثبيـــت والتكليـــف و أعمـــال الصـيانة يجـب أن تقـام فقـط مـن طـرف المـــوظفين المـــؤهلين

DA1-...-A20...



Eaton.com/documentation
MN04020005Z... DA1

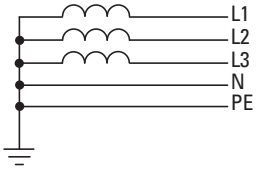
Eaton.com/EcoDesign-VFD
MZ040046EN



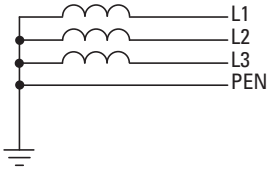
DA1-x y zzz F N- A20N

- A20N: 20 = IP20, NEMA 0
- F: B = Brake chopper (DC+, BR); N = No Brake chopper
- N: F = EMC Filter (RFI); N = No EMC Filter
- zzz: I_e; 4D3 = 4.3 A; 024 = 24 A
- y: U_{LN} (Mains), 50/60 Hz; 2 = 230 V (200 - 240 V ±10 %); 4 = 400 V (380 - 480 V ±10 %)
- x: Mains → Motor; 1 = 1 AC → 3 AC; 3 = 3 AC → 3 AC

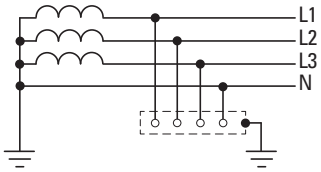
Mains (TN, TT)



TN-S



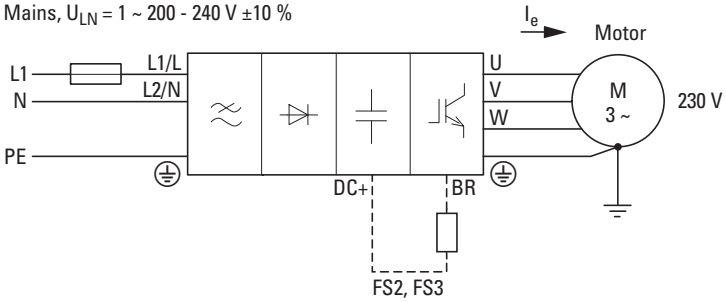
TN-C



TT

DA1-12…

Mains, U_{LN} = 1 ~ 200 - 240 V ±10 %

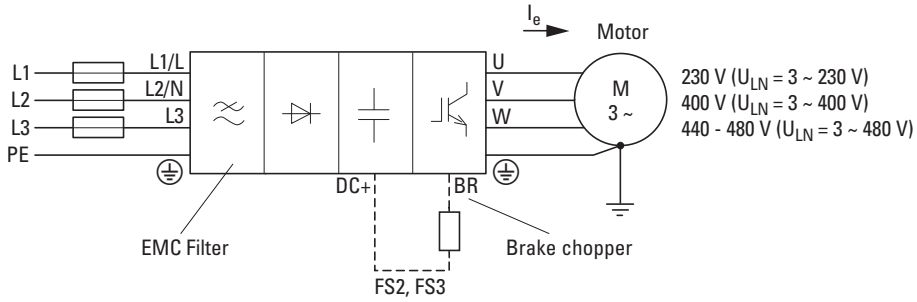


DA1-32…

Mains, U_{LN} = 3 ~ 200 - 240 V ±10 %

DA1-34…

Mains, U_{LN} = 3 ~ 380 - 480 V ±10 %



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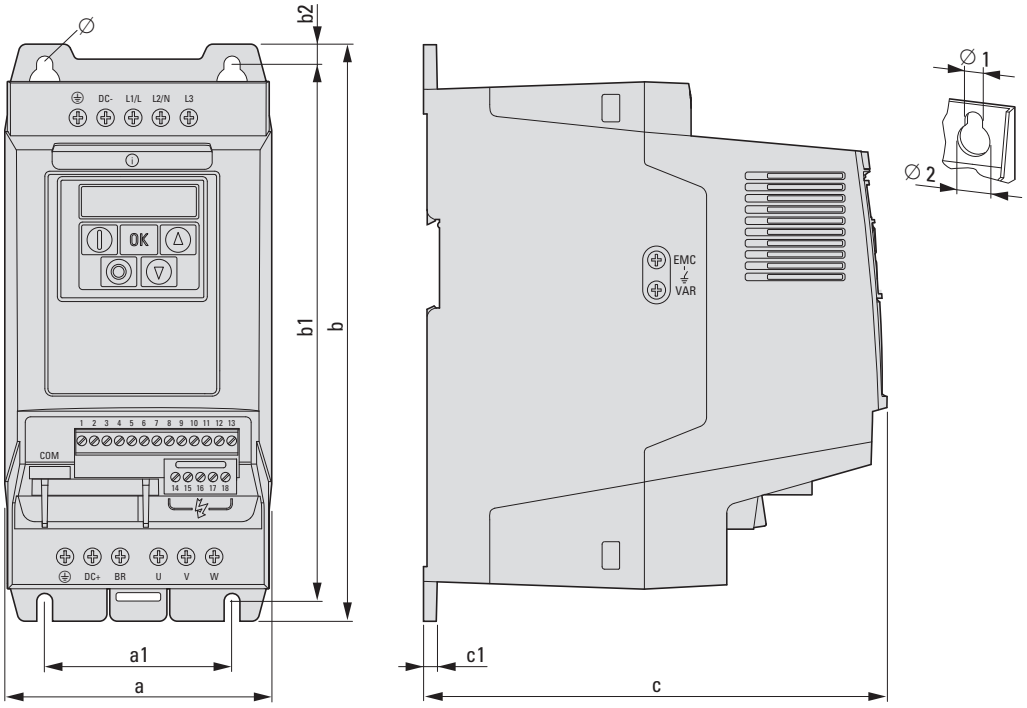
(en) **Dimensions and weights**
(de) **Abmessungen und Gewichte**
(fr) **Encombrements et poids**
(es) **Dimensiones y pesos**
(it) **Dimensioni e pesi**
(zh) **尺寸和重量**
(ru) **Размеры и вес**
(nl) **Afmetingen en gewichten**
(da) **Mål og vægt**
(el) **Διαστάσεις και βάρη**
(pt) **Medições e pesos**
(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**
(hr) **Dimenzije i težina**
(tr) **Boyutlar ve ağırlıklar**
(sr) **Димензије и тежине**
(no) **Dimensjoner og vekter**
(uk) **Габаритні розміри й вага**
(ar) **الأبعـــاد والأوزان**



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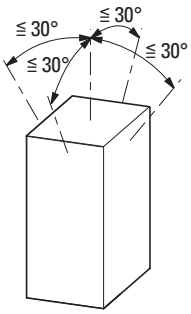
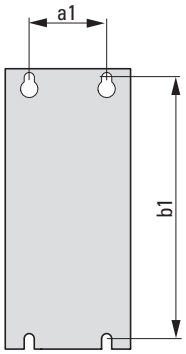
[mm (in)]

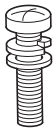
FS		a	a1	b	b1	b2	c	c1	Ø 1	Ø 2	kg (lbs)
FS2	DA1-12… DA1-32… DA1-34…	107 (4.21)	75 (2.95)	231 (9.09)	215 (8.46)	8 (0.31)	186 (7.32)	5 (0.2)	6 (0.24)	12 (0.47)	1.8 (3.97)
FS3	DA1-32… DA1-34…	131 (5.16)	100 (3.94)	273 (10.75)	255 (10.04)	8.5 (0.33)	204 (8.03)	5 (0.2)	6 (0.24)	12 (0.47)	3.5 (7.72)

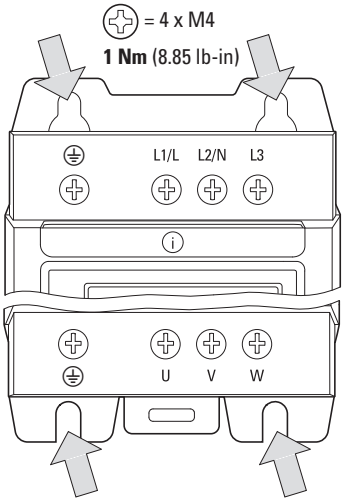
→ 1 inch = 25.4 mm
1 mm = 0.0394 inch
1 inch = 1″

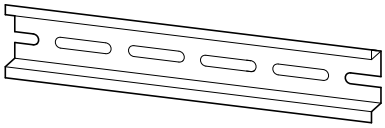
(en) **Mounting**	(it) **Montaggio**	(da) **Montering**	(fi) **Asennus**	(lv) **Montāža**	(sk) **Montáž**	(tr) **Montaj**
(de) **Montage**	(zh) **安装**	(el) **Τοποθέτηση**	(cs) **Montáž**	(lt) **Montavimas**	(bg) **Монтаж**	(sr) **Монтирање**
(fr) **Montage**	(ru) **Монтаж**	(pt) **Montagem**	(et) **Paigaldamine**	(pl) **Montaż**	(ro) **Montarea**	(no) **Montering**
(es) **Montaje**	(nl) **Montering**	(sv) **Montering**	(hu) **Felszerelése**	(sl) **Montaža**	(hr) **Montaža**	(uk) **Монтаж**
						(ar) **التركيـــــب**





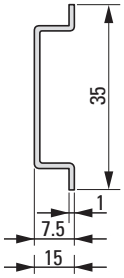




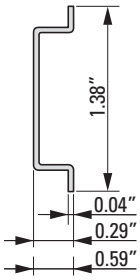


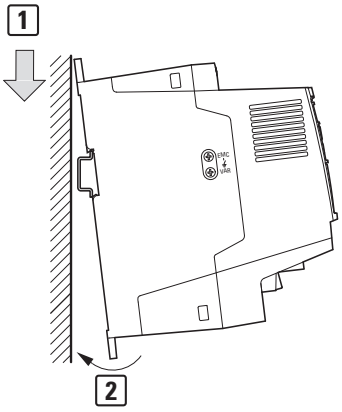
IEC/EN 60715

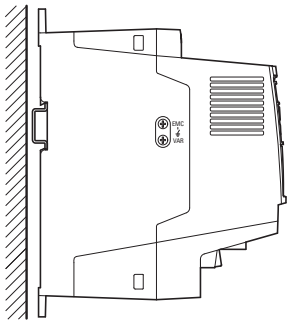
[mm]

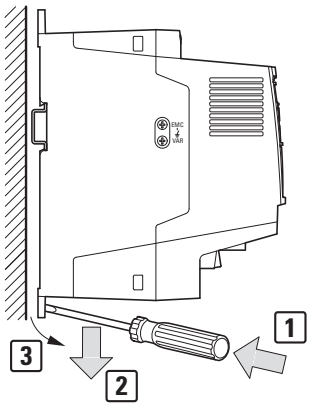


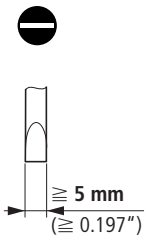
[in]

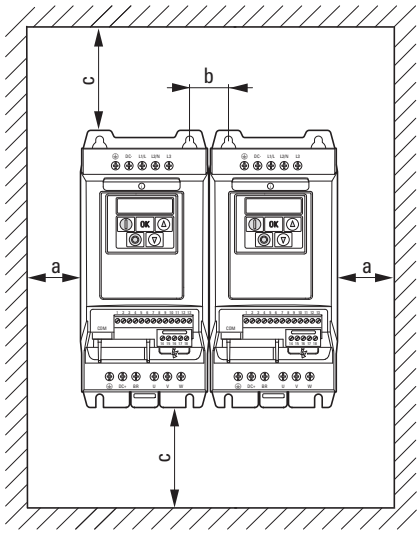


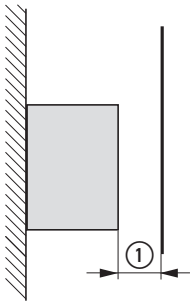




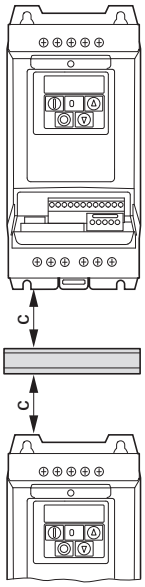


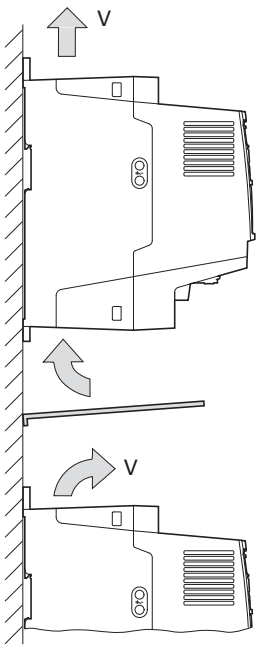






① **≧ 15 mm** (≧ 0.59″)





	a mm (in)	b mm (in)	c mm (in)	V m^3/h (cfm)
FS2	50 (1.97)	32 (1.26)	75 (2.95)	18.69 (11)
FS3	50 (1.97)	31 (1.22)	100 (3.94)	44.17 (26)

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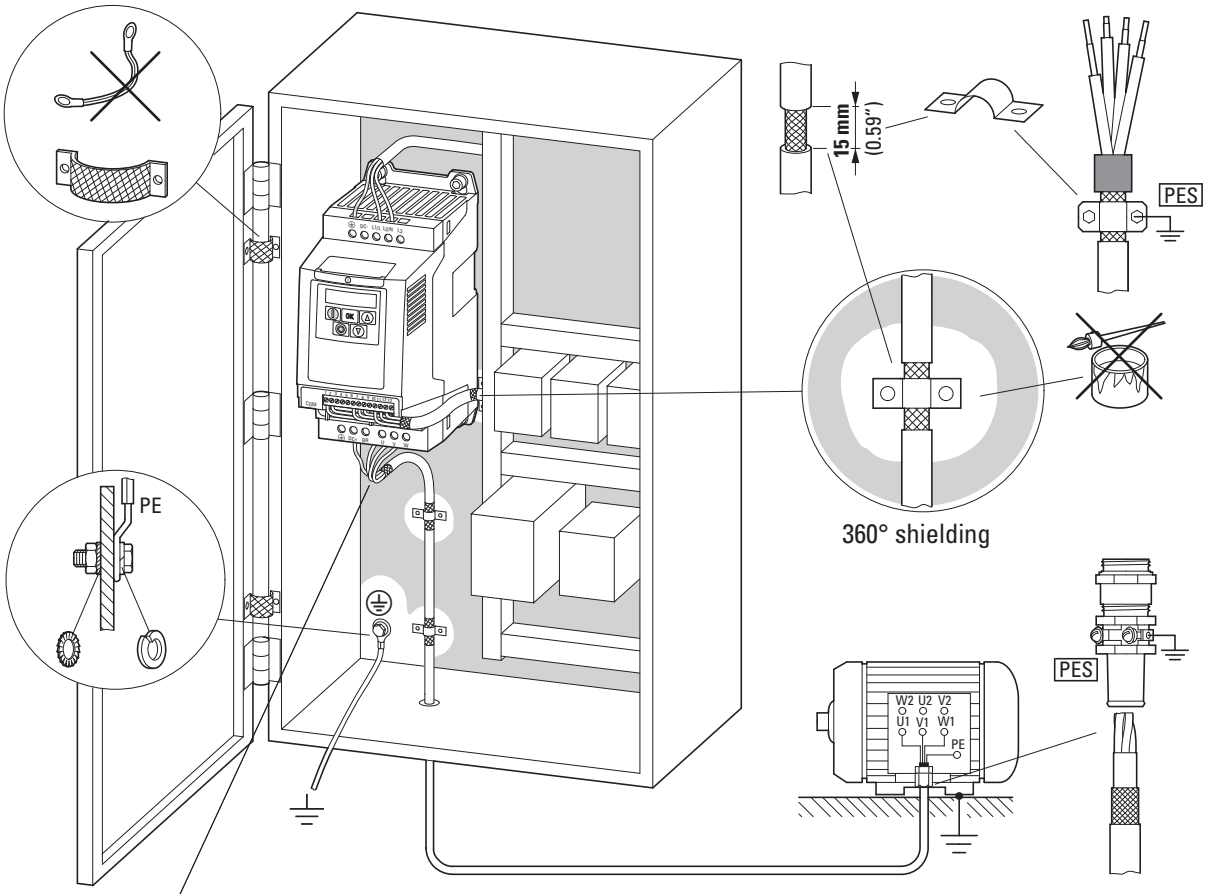
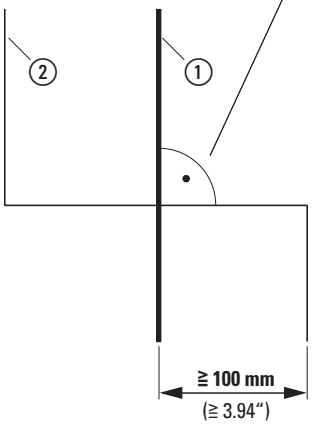
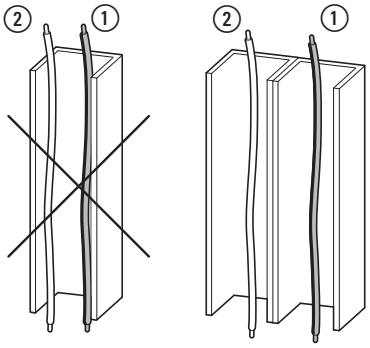
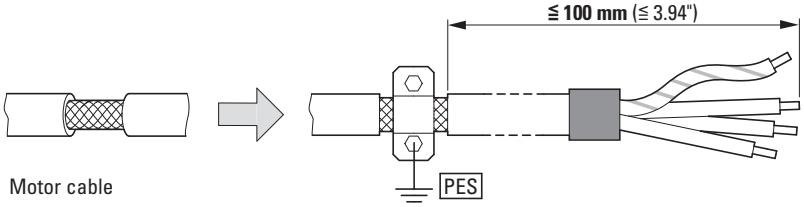






① **Power:** L1, L2, L3, N, PE, U, V, W, DC+, DC-, RB
② Control: 1, 2, … 18, Modbus, CANopen

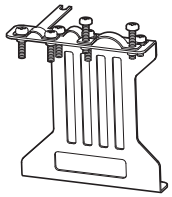


(en) **Option –** (de) **Option –** (fr) **Option –** (es) **Opción –** (it) **Opzione –** (zh) **选项 –**
(ru) **Опция –** (nl) **Optie –** (da) **Option –** (el) **Προαιρετικός εξοπλισμός –**
(pt) **Option –** (sv) **Option –** (fi) **Lisävaruste –** (cs) **Volitelně –** (et) **Lisavarustus –**
(hu) **Opció –** (lv) **Opcija –** (lt) **Pasirinktis –** (pl) **Opcja –** (sl) **Opcija –**
(sk) **Voľba –** (bg) **опция –** (ro) **Opțiunea –** (hr) **Opcija –** (tr) **Seçenek –**
(sr) **Опција –** (no) **Alternativ –** (uk) **Додаткове обладнання –** (ar) **خيار**

EMC Filter OFF



DX-EMC-MNT-…





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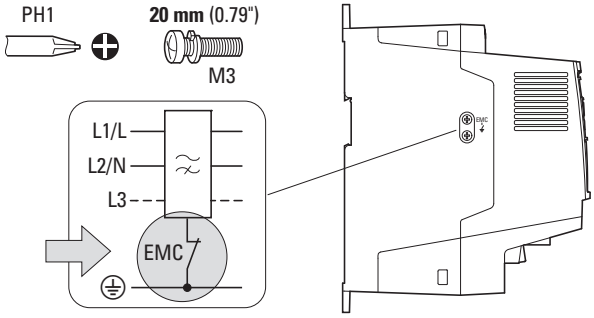


(en) **CAUTION**
Connect only in voltage-free state!

(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**
Napájať 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!

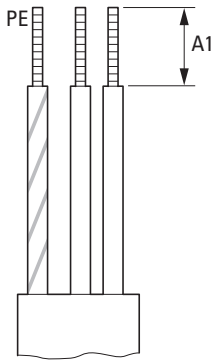
(no) **FORSIKTIG**
Tilkoble bare i spenningsfri tilstand!

(uk) **УВАГА**
Підключати лише за відсутності напруги!

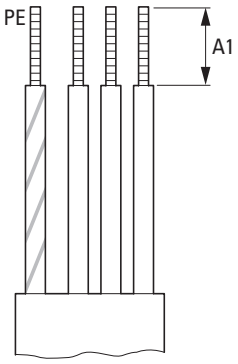
(ar) **انتبـــاه**
!التوصـــيل فقـــط فـــي حـــال عـــدم الفولتيـــة

FS2, FS3: A1 = 10 mm (0.39")

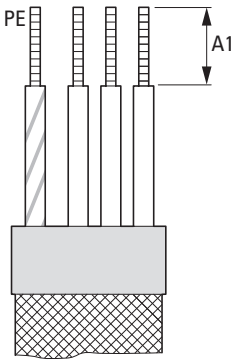
Mains 1 ~



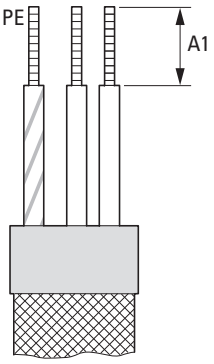
Mains 3 ~

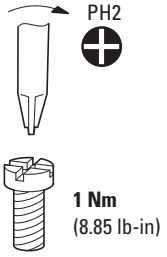


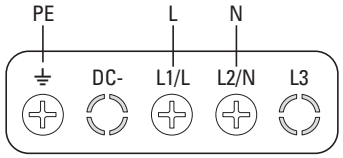
Motor



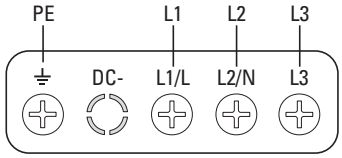
Brake Resistor



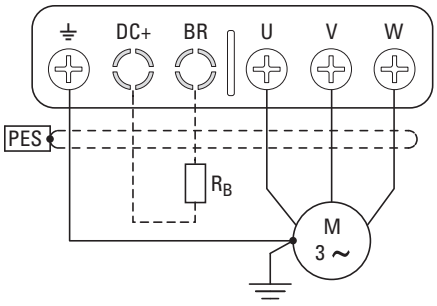


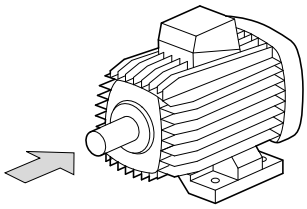


DA1-12…

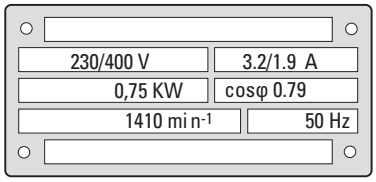


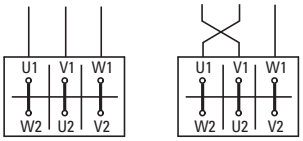
DA1-32…, DA1-34…





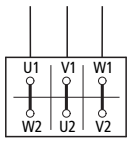
DA1	Motor
U	U1
V	V1
W	W1



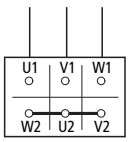


FWD

REV



U_{LN} = 230 V



U_{LN} = 400 V

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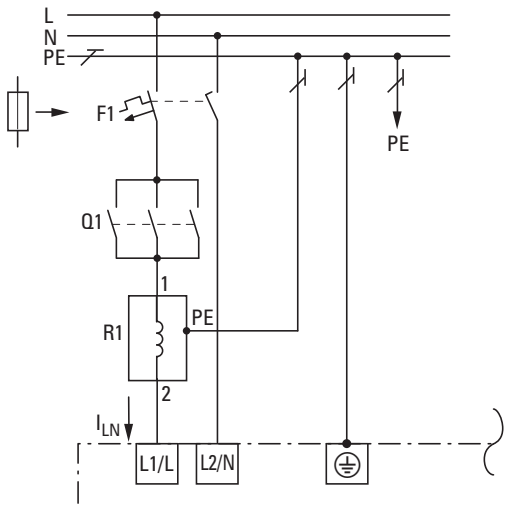
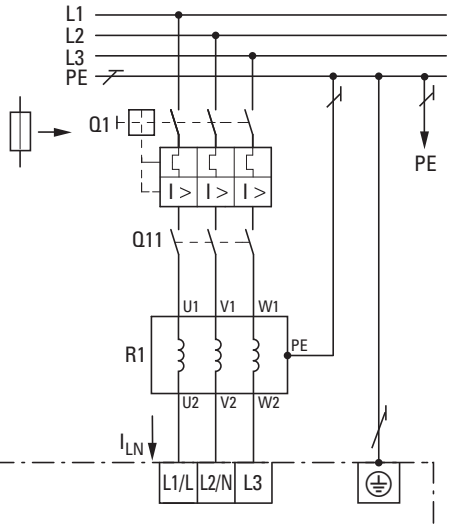
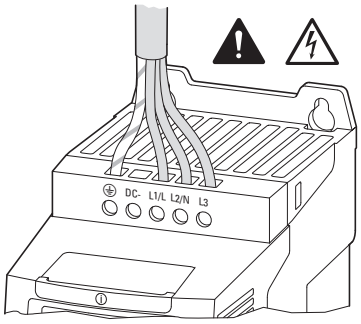
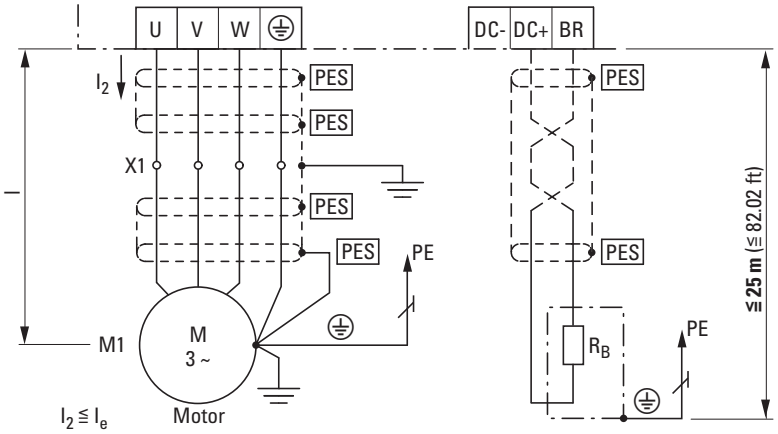
Mains
1 ~ 200 V - 240 V ±10 %, 50/60 Hz (DA1-12…)

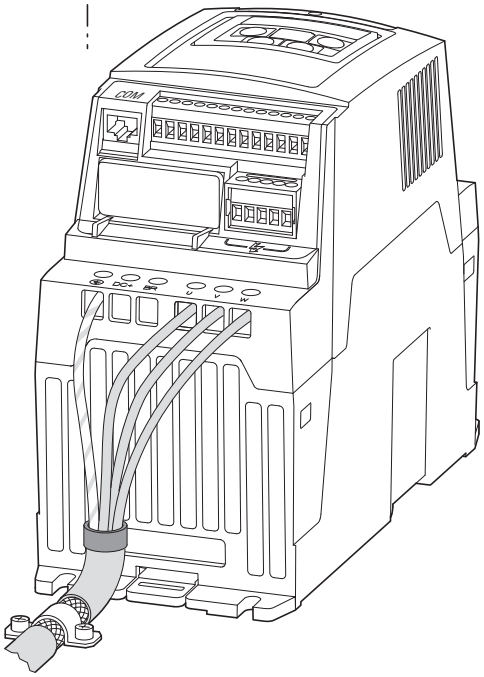


Mains
3 ~ 200 V - 240 V ±10 %, 50/60 Hz (DA1-32…)
3 ~ 380 V - 480 V ±10 %, 50/60 Hz (DA1-43…)









EMC	I	I	DA1
C2	**≦ 5 m**	≦ 16.4 ft	DA1-12…, DA1-32…, DA1-34…
C3	**≦ 25 m**	≦ 82.02 ft	

	Frame Size	I_{LN}	F1/Q1 MCB (type B)	Mains		I_e	Motor		P		R_B		
		A	A	mm^2	AWG	A	mm^2	AWG	kW	HP	Ω	mm^2	AWG
DA1-124D3…	FS2	8.5	16 (15)	2 x 2.5	2 x 12	4.3	3 x 1.5	3 x 14	0.75	1	100	1.5	14
DA1-127D0…	FS2	13.9	20	2 x 4	2 x 10	7	3 x 1.5	3 x 14	1.5	2	50	1.5	14
DA1-12011…	FS2	19.5	25	2 x 10	2 x 8	10.5	3 x 1.5	3 x 14	2.2	3	35	1.5	14
DA1-324D3…	FS2	4.5	10	3 x 1.5	3 x 14	4.3	3 x 1.5	3 x 14	0.75	1	100	1.5	14
DA1-327D0…	FS2	7.3	10	3 x 2.5	3 x 14	7	3 x 1.5	3 x 14	1.5	2	50	1.5	14
DA1-32011…	FS2	11	16 (15)	3 x 4	3 x 12	10.5	3 x 1.5	3 x 14	2.2	3	35	1.5	14
DA1-32018…	FS3	18.8	20	3 x 4	3 x 10	18	3 x 2.5	3 x 10	4	5	20	2.5	10
DA1-32024…	FS3	24.8	32 (30)	3 x 10	3 x 8	24	3 x 4	3 x 10	5.5	7.5	20	4	10
DA1-342D2…	FS2	2.4	10 (6)	3 x 1.5	3 x 14	2.2	3 x 1.5	3 x 14	0.75	1	400	1.5	14
DA1-344D1…	FS2	4.3	10 (6)	3 x 1.5	3 x 14	4.1	3 x 1.5	3 x 14	1.5	2	200	1.5	14
DA1-345D8…	FS2	6.1	10 (6)	3 x 1.5	3 x 14	5.8	3 x 1.5	3 x 14	2.2	3	150	1.5	14
DA1-349D5…	FS3	9.8	16 (15)	3 x 2.5	3 x 12	9.5	3 x 1.5	3 x 14	4	5	100	1.5	14
DA1-34014…	FS3	14.6	20	3 x 4	3 x 12	14	3 x 1.5	3 x 12	5.5	7.5	75	1.5	12
DA1-34018…	FS3	18.1	25	3 x 4	3 x 8	18	3 x 2.5	3 x 10	7.5	10	50	2.5	10
DA1-34024…	FS3	24.7	40 (35)	3 x 10	3 x 8	24	3 x 4	3 x 10	11	15	40	4	10

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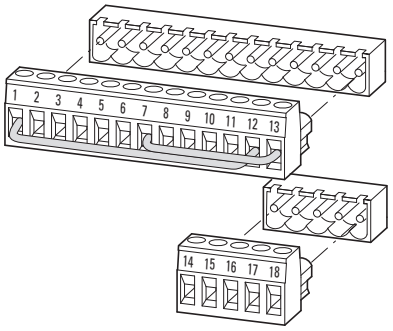
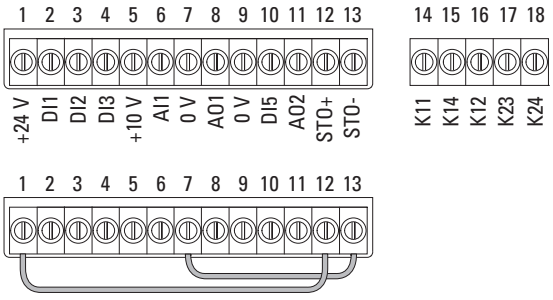
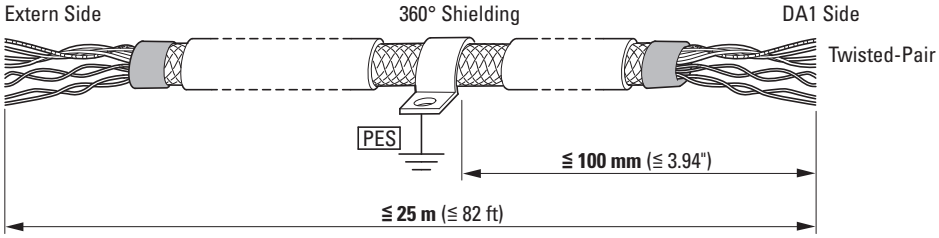
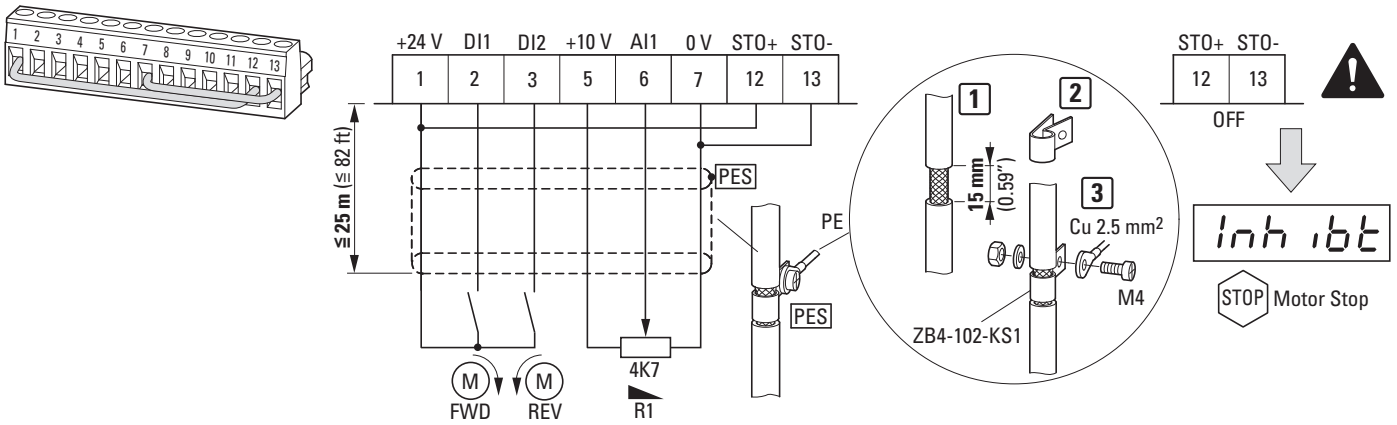
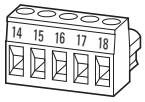


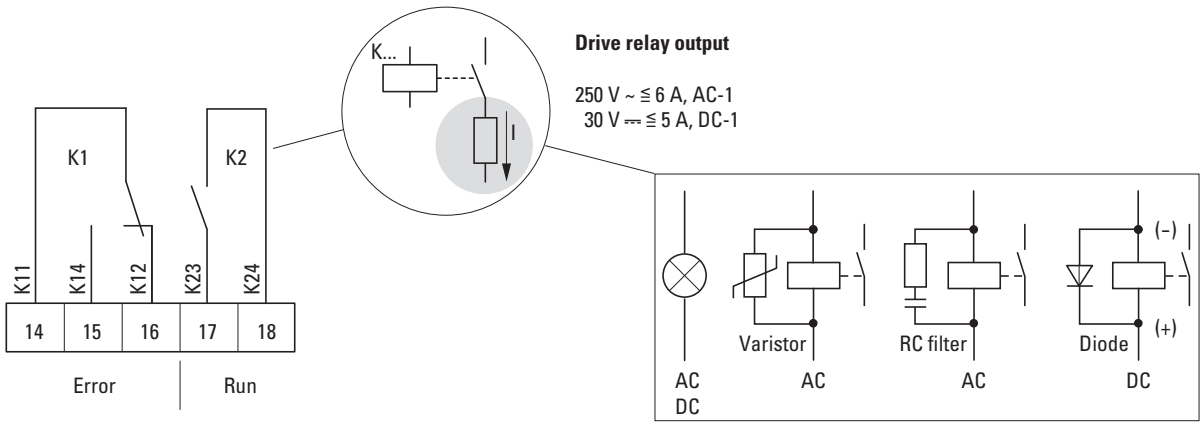


mm²	mm²	AWG	mm	in	M3 Nm	lb-in	mm
0.14 - 2.5	0.14 - 2.5	30 - 12	6	0.24	0.8	7.08	0.4 x 2.5









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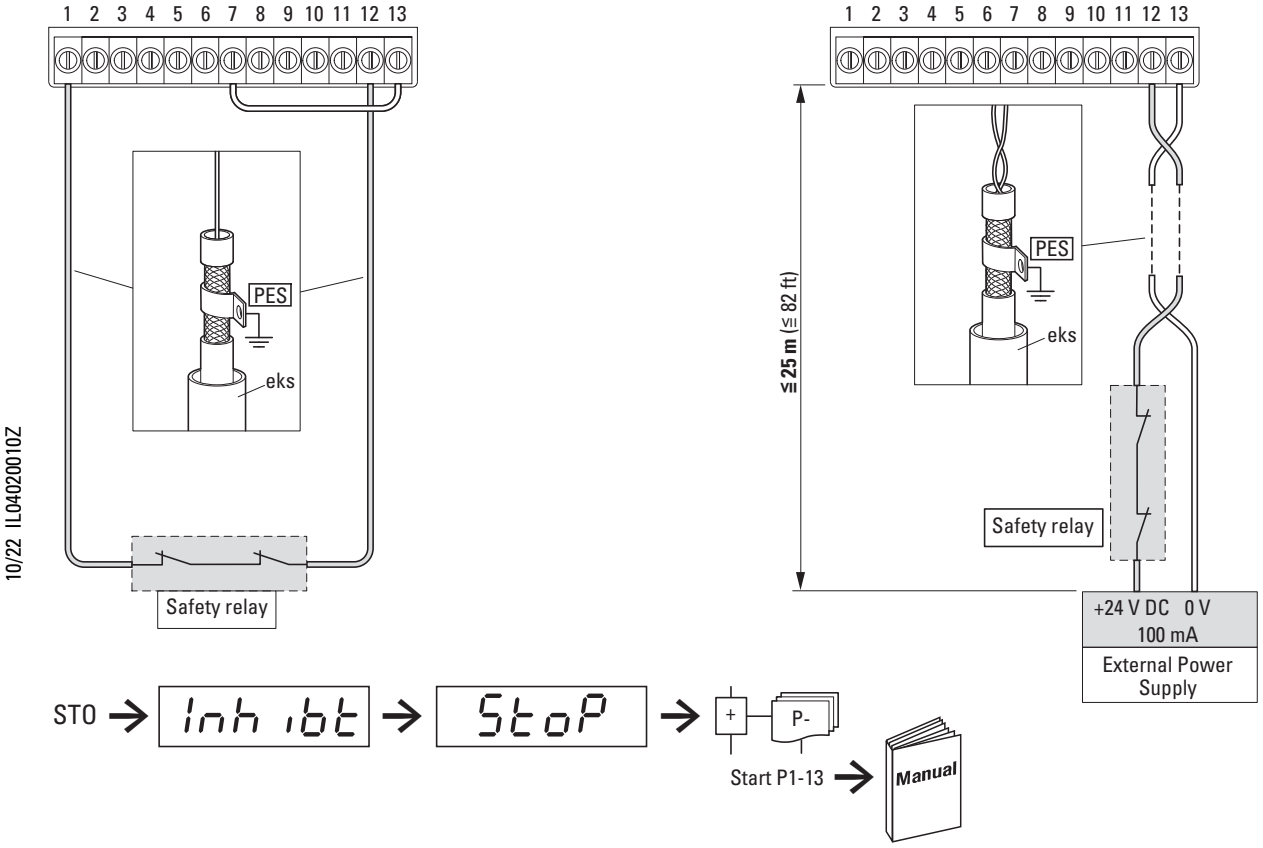
STO (Safe Torque Off)

(en) Shielded cable PES routed in an inherently short-circuit-proof and ground-fault-proof manner
(de) Abgeschirmtes Kabel PES erd- und kurzschlusssicher verlegen (eks)
(fr) Câble blindé PES à poser avec protection contre courts-circuits/défauts à la terre
(es) Tender el cable PES apantallado con seguridad de puesta a tierra y cortocircuito.
(it) Posare il cavo PES schermato collegato a terra e protetto contro il cortocircuito
(zh) 铺设接地防短路屏蔽电缆 PES
(ru) Экранированный кабель PES прокладывается с защитой от замыкания на землю и коротких замыканий.
(nl) Afgeschermde kabel PES geaard en kortsluitveilig installeren
(da) Læg det afskærmede kabel PES jord- og kortslutningssikkert.
(el) Τοποθετήστε το θωρακισμένPES ο καλώδιο κατά τρόπον ώστε να είναι ασφαλές από βραχυκύκλωμα γείωσης και βραχυκύκλωμα.
(pt) Dispor o cabo PES blindado com ligação à terra e protegido contra curto-circuito
(sv) Dra den skärmade kabeln PES jordfels- och kortslutningssäkert.
(fi) Sijoita suojattu kaapeli PES maa- ja oikosulkusuojatusti (mos).
(cs) Stíněný kabel PES položte tak, aby byl bezpečný proti uzemnění a zkratu (buz).
(et) Paigaldage varjestatud kaabel PES maandus- ja lühiskaitstult (mlk).
(hu) Árnyékolt kábelt PES földelve és rövidzármentesen kell lefektetni.
(lv) Izvilkt ekranētu kabeli PES, kas ir aizsargāts pret zemesslēgumiem un īsslēgumiem.
(lt) Ekranuotą kabelį PES nutieskite apsaugotą nuo įžemėjimo ir trumpojo jungimo.
(pl) Kabel ekranowany PES ułożyć z zabezpieczeniem przed zwarciem i zwarciem doziemnym.
(sl) Izoliran kabel PES speljite zavarovano pred zemeljskim in kratkim stikom.
(sk) Uložte tienený kábel PES, odolný voči skratu a náhodnému uzemneniu.
(bg) Положете екраниран кабел PES и го заземете срещу късо съединение.
(ro) Pozați cablul PES ecranat astfel încât să fie asigurată protecția la scurtcircuit şi scurgeri la pământ.
(hr) Zakriljeni kabel PES postavite tako da bude zaštićen od uzemljenja i kratkog spoja.
(tr) Korumalı kablo PES, doğal olarak kısa devre ve topraklama arızası korumalı olarak yönlendirilir
(sr) Оклопљени кабл PES вођен на начин отпоран на кратке спојеве и кварове уземљења
(no) Panserkabel PES lagt på en måte som i seg selv er sikret mot kortslutning og jordfeil
(uk) Екранований кабель PES, прокладений з дотриманням правил захисту від коротких замикань і замикань на землю.
(ar) فـي الأسـاس بطريقـة تحمـي مـن القصـر PES تـم توجيـه الكابـل المحمـي ومـن الخطـأ الأرضـي



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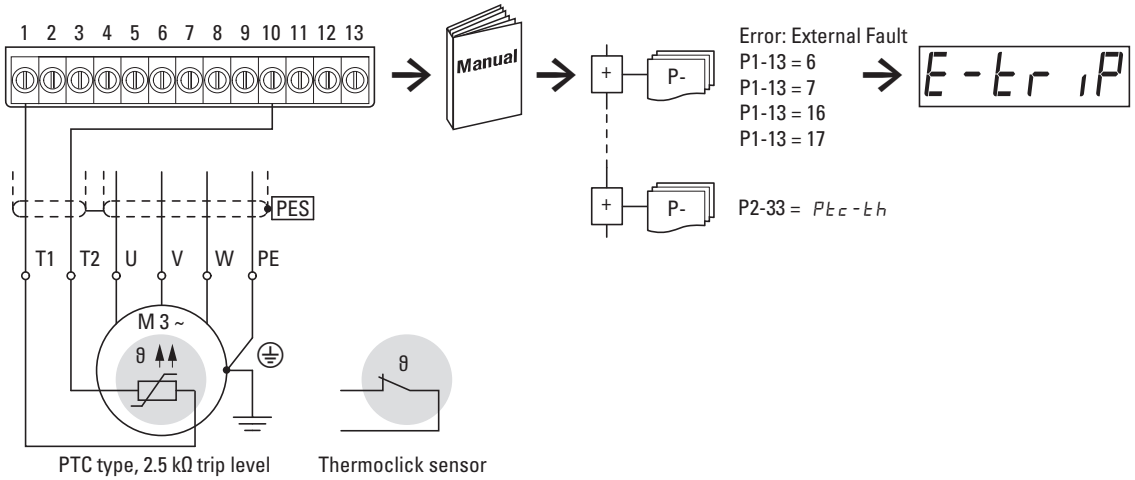
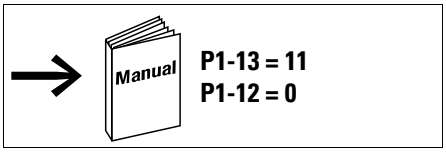
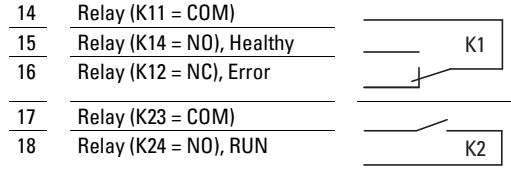
(en) **Thermistor** (it) **Termistore** (da) **Thermistor** (fi) **Termistori** (lv) **Termistors** (sk) **Termistor** (tr) **Termistör**
(de) **Thermistor** (zh) **热敏电阻** (el) **Θερμίστορ** (cs) **Termistor** (lt) **Termistorius** (bg) **Термистор** (sr) **Термистор**
(fr) **Thermistance** (ru) **Термистор** (pt) **Thermistance** (et) **Termistor** (pl) **Termistor** (ro) **Termistor** (no) **Termistor**
(es) **Termistor** (nl) **Thermistor** (sv) **Termistor** (hu) **Termisztor** (sl) **Termistor** (hr) **Termistor** (uk) **Термістор**
(ar) **المقـاوم الحـراري**





Input	L: 0 - 4 V DC	H: 8 - 30 V DC		Output
External Supply +24 V DC (100 mA)			**1**	+24 V DC, < 100 mA
Digital Input 1 (DI1)	Stop	Enable, Run Forward Rotation	2	
Digital Input 2 (DI2)	Stop	Enable, Run Reverse Rotation	3	
Digital Input 3 (DI3)	AI1	FF1/FF2	4	
			5	+10 V DC, < 10 mA
Analog Input 1 (AI1): 0 - 10 V DC, < 20 mA, Frequency Setpoint value [Digital Input 4 (DI4)] → P1-13			6	
0 V			**7**	0 V
			8	Analog Output 1 (AO1): 0 - 10 V DC, < 20 mA, Output Frequency [Digital Output 1 (DO1)] → P2-11, P2-12
0 V			**9**	0 V
Digital Input 5 (DI5) [Analog Input 2 (AI2)] → P1-13	FF1, Fixed Frequency (P2-01 = 5 Hz)	FF2, Fixed Frequency (P2-02 = 10 Hz)	10	
			11	Analog Output 2 (AO2): 0 - 10 V DC, < 20 mA, Output Current [Digital Output 2 (DO2)] → P2-13, P2-14
Safe Tourqe Off	Stop	STO+ (18 - 30 V DC)	12	
Safe Tourqe Off	Stop	STO- (0 V)	13	
			14	Relay (K11 = COM)
			15	Relay (K14 = NO), Healthy
			16	Relay (K12 = NC), Error
			17	Relay (K23 = COM)
			18	Relay (K24 = NO), RUN



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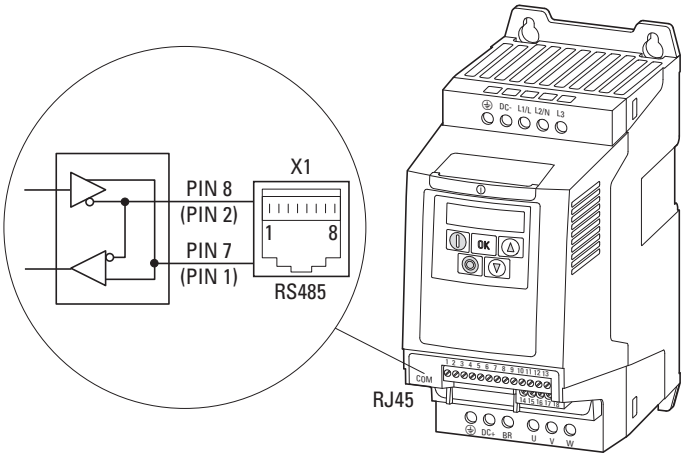
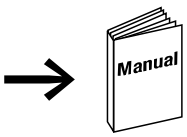
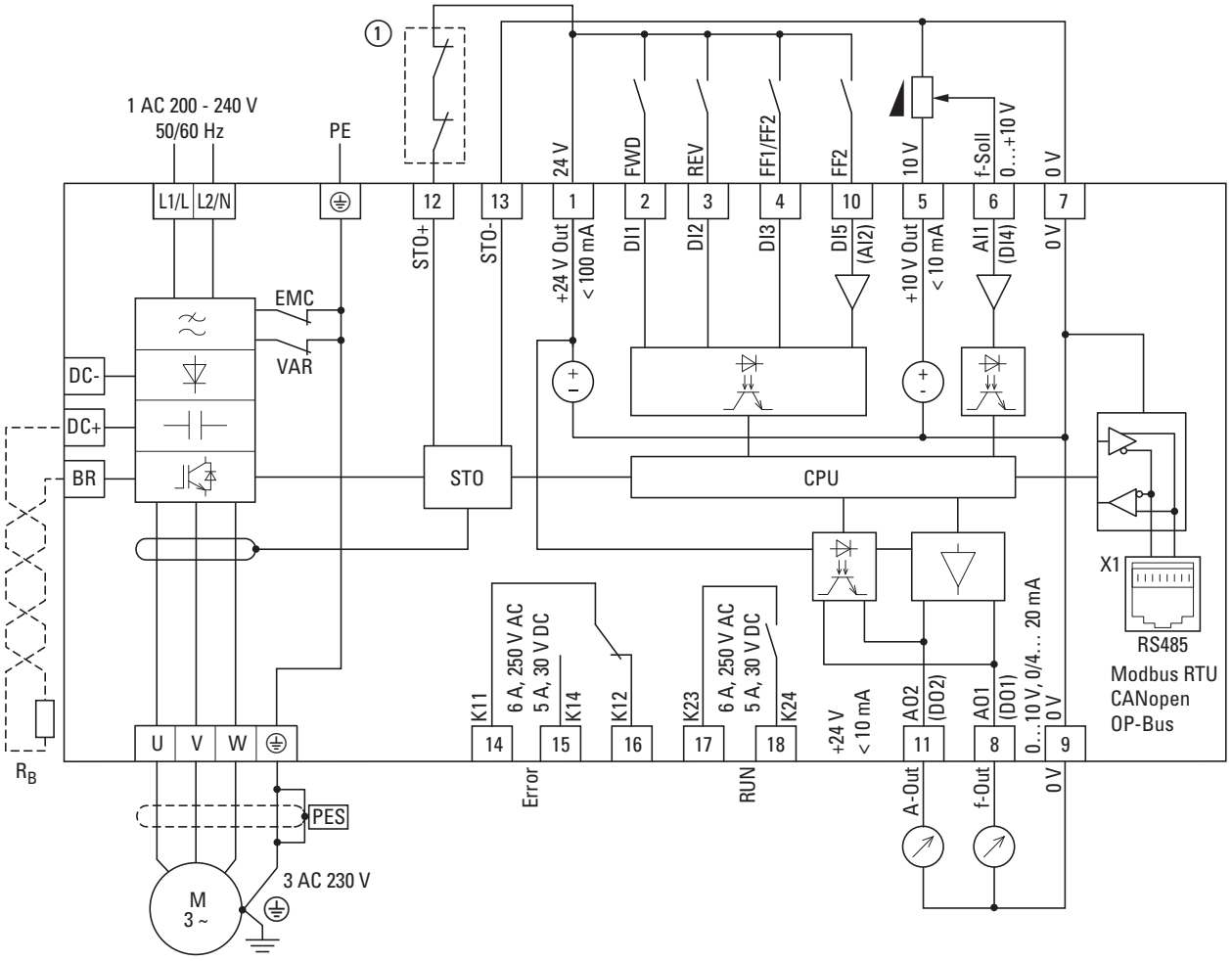


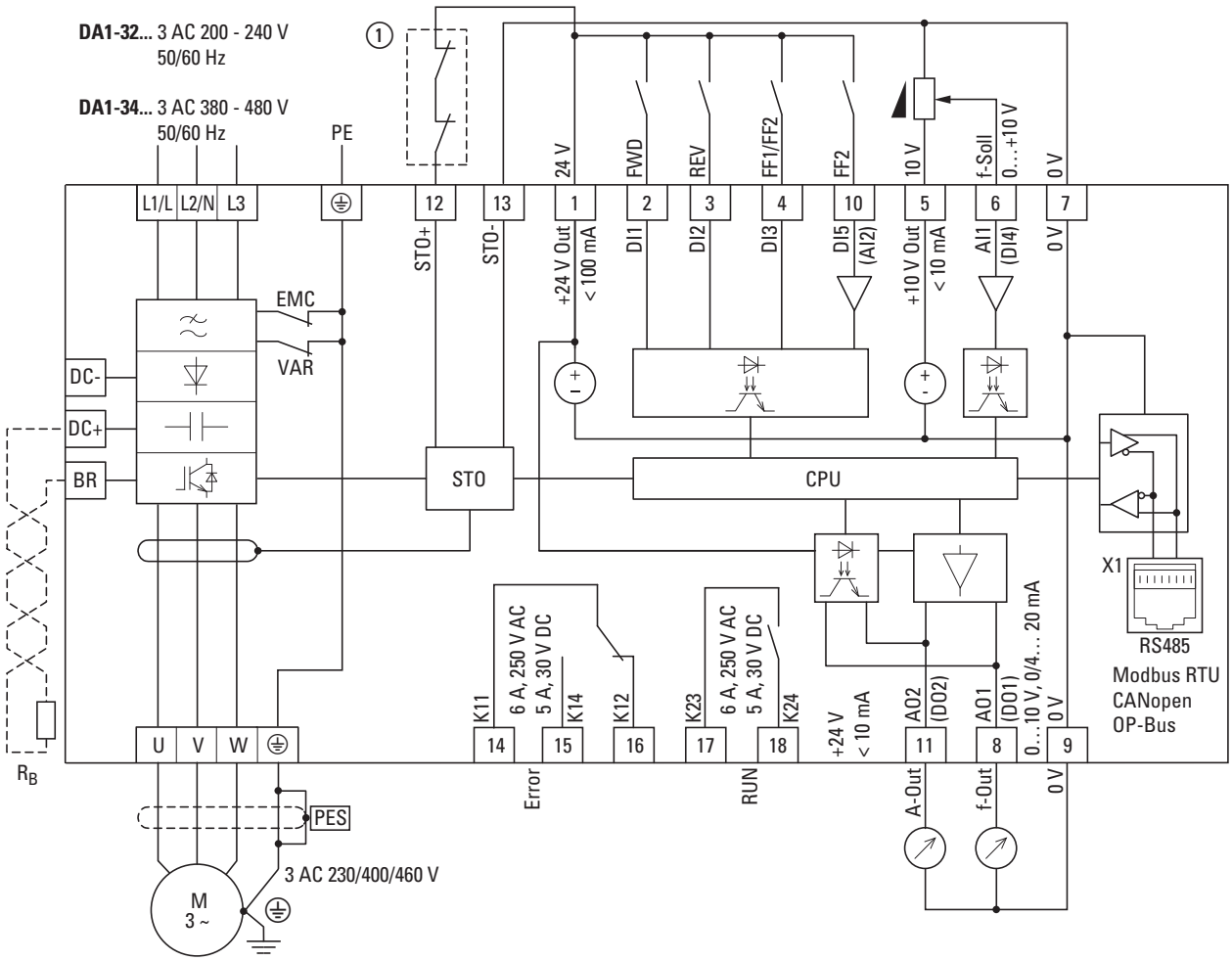
PIN 1	CANopen -
PIN 2	CANopen +
PIN 3	0V
PIN 4	OP-Bus -
PIN 5	OP-Bus +
PIN 6	+ 24 V
PIN 7	Modbus RTU -
PIN 8	Modbus RTU +



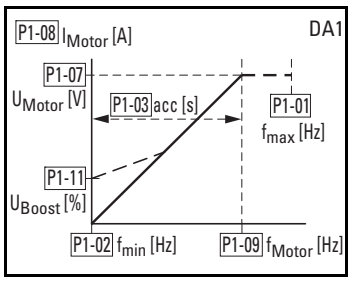
DA1-12…

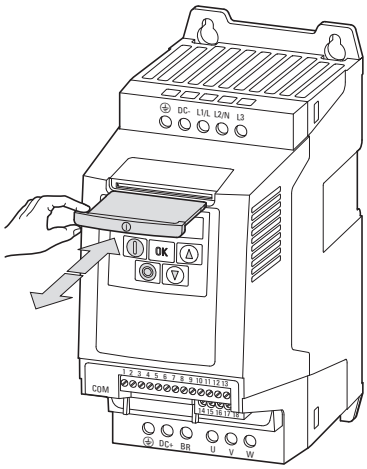


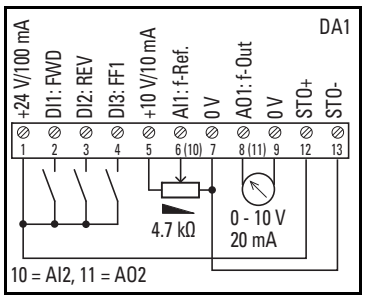
DA1-32…
DA1-34…



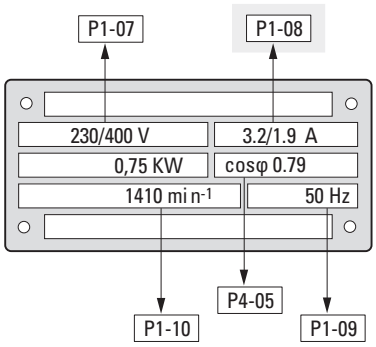
10/22 IL040200010Z

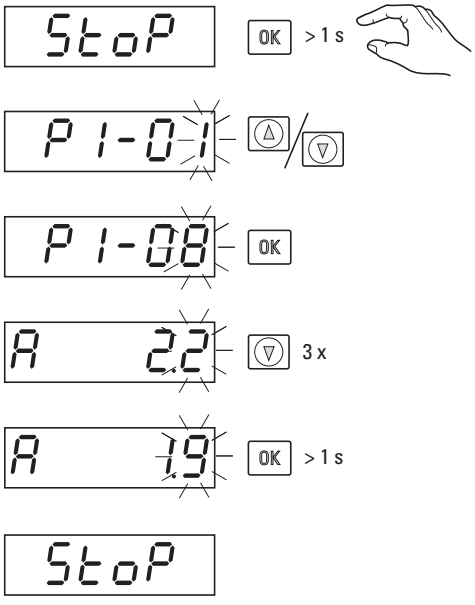




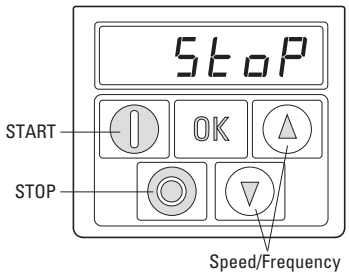


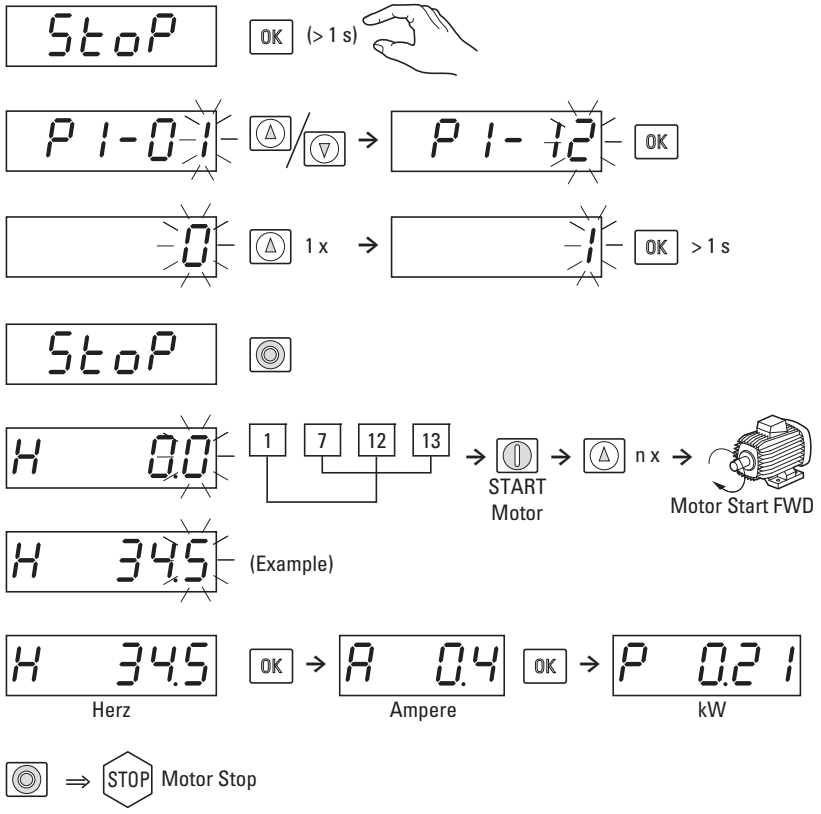
Motor protection





Hand modus (Keypad)





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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 fulfill the protection requirements of Machinery Directive 2006/42/EC.

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 2006/42/EG erfüllt.
EMV-gerechter Aufbau. Steuer- und Netzleitungen räumlich getrennt von der Motorleitung verlegen. PES Leitungsschirm großflächig mit PE verbinden.

(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, 2006/42/EK 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 2006/42/EK ietvertajām aizsardzības prasībām.
EMS atbilstoša uzbūve. Vadības un tīkla kabeļus izvietot atsevišķi no motora kabeļa.
PES Vada ekrānu plašā virsmā savienot ar PE.

(fr) **AVERTISSEMENT**

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 2006/42/CE.
Montage conforme aux règles de la CEM. Eloigner les câbles de commande et de réseau des câbles puissance. Relier le blindage PES 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 2006/42/CE.
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 2006/42/CE
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 2006/42/EG 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 2006/42/EC.
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 2006/42/EG 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 2006/42/EF.
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 2006/42/ΕΚ.
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 2006/42/CE.
Estrutura com compatibilidade electromagnética. Dispor os fios de comando e de rede separados do fio do motor. 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 2006/42/EG.

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 2006/42/EY 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 2006/42/ES o strojních zařízeních.

Nástavba odpovídající směrnici EMC. Řídicí a sít'ová 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 2006/42/EÜ kaitsenõuetele.

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

(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 2006/42/EB 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 2006/42/WE.
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 2006/42/ES.
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. 2006/42/ESS 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 2006/42/ЕО.

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 2006/42/CE 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.

(hr) **OPREZ**

U području valjanosti Direktiva EZ frekvencijski upravljani uređaji i njihov pribor smiju se puštati u rad samo ako se utvrdi da stroj ispunjava zahtjeve za zaštitom iz Direktive o strojevima 2006/42/EZ.
Konstrukcija u skladu s EMC-om. Upravljački i mrežni vodovi prostorno položeni odvojeno od voda motora. PES zaslon kabela povezan PE-om na velikoj površini.

(tr) **DİKKAT**

AB Direktifi dahilinde, frekans kontrollü cihazlar ve aksesuarları, yalnızca makinenin 2006/42/EC Makina Emniyet Direktifi koruma şartlarını karşıladığı belirlendiğinde çalıştırılmalıdır.
EMC uyumlu kurulum sağlayın. Kontrol ve iletişim kablolarını uzamsal olarak motor kablosundan ayrı koyun. PES. kablo ekranı ile PE arasında geniş bir temas alanı bağlantısı olmasını sağlayın.

(sr) **ОПРЕЗ**

На територији надлежности ЕУ директиве, фреквентно контролисани уређаји и њихова додатна опрема морају бити пуштени у рад само када је утврђено да машина испуњава захтеве за заштиту наведене у Директиви о машинама 2006/42/ЕЗ.
Осигурајте инсталацију која је усаглашена са ЕМС. Положите контролне и комуникационе каблове просторно одвојено од кабла мотора. Обезбедите везу велике површине контакта између екрана PES кабла и PE.

(no) **FORSIKTIG**

I EU-direktivets område må frekvensregulerte enheter og deres tilbehør kun settes i drift når det har blitt avgjort at maskinen oppfyller beskyttelseskravene i maskindirektiv 2006/42/EC.
Sikre at installasjon har elektromagnetisk samsvar (EMC). Legg kontroll- og kommunikasjonskabler avstandsseparert fra motorkabelen. Sørg for et stort kontaktområde mellom PES-kabelskjerm og PE.

(uk) **ОБЕРЕЖНО!**

На території, на яку поширюється дія Директив ЄС, пристрої з частотним регулюванням та їхні приналежності можуть вводитися в експлуатацію лише в разі визнання їх такими, що відповідають вимогам до захисту, викладеним у Директиві про машинне обладнання 2006/42/EC.
Переконайтеся в тому, що встановлена система відповідає вимогам до EMC. Кабелі керування та зв'язку мають бути просторово відокремлені від кабелю електродвигуна. Забезпечте достатню контактну поверхню між екраном кабелю PES. та PE.

(ar) **احذر!**

فـي المنطقـة الـتي تخضـع لتوجيـه الاتحـاد الأوروبـي، يجـب ألا يتـم تشـغيل الأجهـزة وملحقاتهـا الـتي يتـم التحكـم فيهـا بواسـطة الـتردد إلا بعـد التأكـد مـن أنهـا تسـتوفي متطلبـات حمايـة توجيـه الماكينـات 2006/42/EC.

ع كـابلاتضَ .ا للتوافـق الكهرومغناطيسـي احـرص علـى أن يكـون التركيـب مطـابقً ا عـن كابل المحـرك. تأكـد مـن وجـودالتحكـم والاتصـال بشـكل منفصـل مكـاني PE و منطقـة تلامـس كبـيرة بيـن شاشـة كبـل

Doc. No.: CE2200129

EU-Konformitätserklärung

EU declaration of conformity

Wir / We, Eaton Industries GmbH, 53105 Bonn, Germany,
Hein-Moeller-Str. 7-11, 53115 Bonn, Germany

erklären hiermit in alleiniger Verantwortung als Hersteller, dass das Produkt (die Produktfamilie)
declare under our sole responsibility as manufacturer that the product (family)

Frequenzumrichter DA1
DA1 Frequency Converter

entsprechend der Auflistung auf Seite 2 den einschlägigen Bestimmungen der Richtlinie(n) des Rates entspricht:
according to the list on page 2 complies with the provisions of Council directive(s):

2014/30/EU	***EMV-Richtlinie** / EMC Directive*
2011/65/EU	***RoHS-Richtlinie** / RoHS Directive*
2006/42/EC	***Maschinenrichtlinie** / Machinery Directive*
2009/125/EC	***Ökodesignrichtlinie** / Ecodesign Directive (Verordnung / Regulation 2019/1781)*

und mit den folgenden Normen übereinstimmt:
based on compliance with the following standard(s):

EN 60204-1:2018	**EN 61508-3:2010**
EN 61800-5-1:2007 + A1:2017 + A11:2021	**EN 61508-4:2010**
EN 61800-5-2:2017	**EN 61508-5:2010**
EN 62061:2005 + A1:2013 + A2:2015 + AC:2010	**EN 61508-6:2010**
EN IEC 61800-3:2018	**EN 61508-7:2010**
EN IEC 63000:2018	**EN 61800-9-2:2017**
EN ISO 13849-1:2015	
EN 61508-1:2010	
EN 61508-2:2010	

Bonn, 18.10.2022

Powering Business Worldwide

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Head of Product Line Management
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Doc. No.: CE2200129

Typen des Sortiments

Types within the range

Die Konformitätserklärung gilt für folgende Typen der Produktfamilie und in Kombination mit den darunter folgenden Produkten:
The declaration of conformity applies to the following types within the product family and in combination with products listed below:

DA1-..

+ Zubehör / Accessories

DXA-EXT-3DI1RO
DXA-EXT-3RO
DXA-EXT-ENCOD
DX-BR5-033
DX-BR3-100
DX-CBL-PC-1M5
DX-CBL-PC-3M0
DX-CBL-RJ45-0M5
DX-CBL-RJ45-1M0
DX-CBL-RJ45-3M0
DX-COM-PCKIT
DX-EMC-MNT-1M
DX-EMC-MNT-1N
DX-EMC-MNT-2M
DX-EMC-MNT-2N
DX-EMC-MNT-3M
DX-EMC-MNT-3N
DX-EXT-ENDAT
DX-KEY-LED2
DX-KEY-OLED
DX-NET-BACNETIP-2
DX-NET-BACNETMST
DX-NET-ETHERCAT-2
DX-NET-ETHERNET-2
DX-NET-MODBUSTCP-2
DX-NET-PROFIBUS
DX-NET-PROFINET-2

Bonn, 18.10.2022

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Types within the range

Die Konformitätserklärung gilt für folgende Typen der Produktfamilie und in Kombination mit den darunter folgenden Produkten:

The declaration of conformity applies to the following types within the product family and in combination with products listed below:

DX-NET-SWD1
DX-SPL-RJ45-2SL1PL
DX-SPL-RJ45-3SL
DX-NET-SWD3
DX-NET-ETHERNET2-2

Die Übereinstimmung eines Baumusters des bezeichneten Produktes mit der Richtlinie
Consistency of a production sample with the marked product in accordance with the Directive
Maschinenrichtlinie 2006/42/EG / Machinery Directive 2006/42/EC

wurde bescheinigt durch
has been certified by

Notifizierte Stelle / Anschrift: NB 0035-TÜV Rheinland, Am Grauen Stein, 51105 Köln/ Germany
Notified Agency / Address:

Nummer der Bescheinigung: 01/205/5811.00/20
Certification Number:

Ausstellungsdatum: 2020-11-19
Date of issue:

Das bezeichnete Produkt stimmt mit dem geprüften Baumuster überein.
The designated product is consistent with the examined type

Bevollmächtigter zur Zusammenstellung der technischen Unterlagen / Authorised Person to compile the technical file:
Eaton Industries GmbH, Hein-Moeller-Str. 7-11, 53115 Bonn, Germany

Bonn, 18.10.2022

i.A. Edgar Willems
Manager Quality Business Line ICP
Power Management & Control Components Division

i.A. Lars Gundlach
Head of Product Line Management
Controls & Automation

Powering Business Worldwide

Doc. No.: UK2200130

Declaration of conformity

UK CA

We, Eaton Industries GmbH, 53105 Bonn, Germany,
Hein-Moeller-Str. 7-11, 53115 Bonn, Germany

declare under our sole responsibility as manufacturer that the product (family)

DA1 Frequency Converter

according to the list on page 2 and provided that it is installed, maintained and used in the application intended for, with respect to the relevant manufacturer´s instructions, installation standards and "good engineering practices", complies with the statutory requirements:

2016 No. 1091	***The Electromagnetic Compatibility Regulations 2016***
2012 No. 3032	***RoHS in Electrical and Electronic Equipment Regulations 2012***
2008 No. 1597	***The Supply of Machinery (Safety) Regulations 2008***
2021 No. 745	***Ecodesign for Energy-Related Products and Energy Information Regulations 2021***

based on compliance with the following standard(s):

EN 60204-1:2018
EN 61800-5-1:2007 + A1:2017 + A11:2021
EN 61800-5-2:2017
EN 62061:2005 + A1:2013 + A2:2015 + AC:2010
EN IEC 61800-3:2018
EN IEC 63000:2018
EN ISO 13849-1:2015
EN 61508-1:2010
EN 61508-2:2010
EN 61508-3:2010
EN 61508-4:2010
EN 61508-5:2010
EN 61508-6:2010
EN 61508-7:2010
EN 61800-9-2:2017

Bonn, 19.10.2022

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Types within the range

The declaration of conformity applies to the following types within the product family and in combination with products listed below:

DA1-..

+ Zubehör / Accessories

DXA-EXT-3DI1RO
DXA-EXT-3RO
DXA-EXT-ENCOD
DX-BR5-033
DX-BR3-100
DX-CBL-PC-1M5
DX-CBL-PC-3M0
DX-CBL-RJ45-0M5
DX-CBL-RJ45-1M0
DX-CBL-RJ45-3M0
DX-COM-PCKIT
DX-EMC-MNT-1M
DX-EMC-MNT-1N
DX-EMC-MNT-2M
DX-EMC-MNT-2N
DX-EMC-MNT-3M
DX-EMC-MNT-3N
DX-EXT-ENDAT
DX-KEY-LED2
DX-KEY-OLED
DX-NET-BACNETIP-2
DX-NET-BACNETMST
DX-NET-ETHERCAT-2
DX-NET-ETHERNET-2
DX-NET-MODBUSTCP-2
DX-NET-PROFIBUS
DX-NET-PROFINET-2

Bonn, 19.10.2022

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Types within the range

The declaration of conformity applies to the following types within the product family and in combination with products listed below:

DX-NET-SWD1
DX-SPL-RJ45-2SL1PL
DX-SPL-RJ45-3SL
DX-NET-SWD3
DX-NET-ETHERNET2-2

Consistency of a production sample with the marked product in accordance with the Directive

The Supply of Machinery (Safety) Regulations 2008 2008 No. 1597 / The Supply of Machinery (Safety) Reg

has been certified by

Notified Agency / Address: NB 0035-TÜV Rheinland, Am Grauen Stein, 51105 Köln/ Germany

Certification Number: 01/205/5811.00/20 **Date of issue:** 2020-11-19

The designated product is consistent with the examined type.

Authorised Person to compile the technical file:
Eaton Industries GmbH, Hein-Moeller-Str. 7-11, 53115 Bonn, Germany

Bonn, 19.10.2022

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Powering Business Worldwide

Additional Information for UL® Approved Installations

→ Refer to Manual MN04020005Z-EN

DA1 is designed to meet the UL requirements. In order to ensure full compliance, the following must be fully observed.

Input Power Supply Requirements

Supply Voltage	DA1-12…	200 - 240 RMS Volts for 230 Volt rated units, ±10 % variation allowed. 240 Volt RMS Maximum
	DA1-32…	200 - 240 RMS Volts for 230 Volt rated units, ±10 % variation allowed. 240 Volt RMS Maximum
	DA1-34…	380 - 480 Volts for 400 Volt rated units, ±10 % variation allowed, Maximum 500 Volts RMS
	DA1-35…	500 - 600 Volts for 600 Volt rated units, ±10 % variation allowed, Maximum 600 Volts RMS
Imbalance		Maximum 3 % voltage variation between phase – phase voltages allowed
		All DA1 units have phase imbalance monitoring. A phase imbalance of > 3 % will result in the drive tripping. For input supplies which have supply imbalance greater than 3 % Eaton Drives recommends the installation of input line reactors.
Frequency		50 - 60 Hz ±5 % Variation

Short Circuit Capacity

Voltage Rating	Min. kW (HP)	Max. kW (HP)	Maximum supply short-circuit current
All	All	All	100 kA rms (AC)

All the drives in the above table are suitable for use on a circuit capable of delivering not more than the above specified maximum short-circuit Amperes symmetrical with the specified maximum supply voltage.

Incoming power supply connection

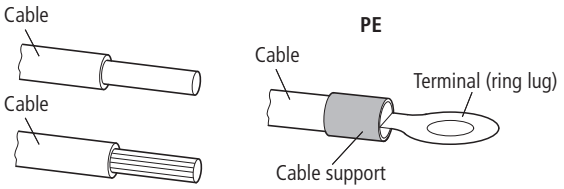
- For 3 phase supplies, power should be connected to L1, L2, and L3. Phase sequence is not important.
- For compliance with CE and C Tick EMC requirements, a symmetrical shielded cable is recommended.
- For compliance with CSA requirements, transient surge suppression shall be installed on the line side of this equipment and shall be rated 600 V (phase to ground), 600 V (phase to phase), suitable for overvoltage category III, and shall provide protection for a rated impulse withstand voltage peak of 4 kV or equivalent.
- A fixed installation is required according to IEC61800-5-1 with a suitable disconnecting device installed between the DA1 and the AC Power Source. The disconnecting device must conform to the local safety code/regulations (e. g. within Europe, EN60204-1, Safety of machinery).
- The cables should be dimensioned according to any local codes or regulations. Guideline dimensions are given on page 7/17.
- Suitable fuses to provide wiring protection of the input power cable should be installed in the incoming supply line, according to the data on page 7/17. The fuses must comply with any local codes or regulations in place. In general, type gG (IEC 60269) or UL type T fuses are suitable; however in some cases type aR fuses may be required. The operating time of the fuses must be below 0.5 seconds.
- Where allowed by local regulations, suitably dimensioned type B MCB circuit breakers of equivalent rating may be utilised in place of fuses, providing that the clearing capacity is sufficient for the installation.
- When the power supply is removed from the drive, a minimum of 30 seconds should be allowed before re-applying the power. A minimum of 5 minutes should be allowed before removing the terminal covers or connection.
- The maximum permissible short circuit current at the DA1 Power terminals as defined in IEC60439-1 is 100 kA.
- An optional Input Choke is recommended to be installed in the supply line for drives where any of the following conditions occur:
  - The incoming supply impedance is low or the fault level/short circuit current is high
  - The supply is prone to dips or brown outs
  - An imbalance exists on the supply (3 phase drives)
  - The power supply to the drive is via a busbar and brush gear system (typically overhead Cranes).
- In all other installations, an input choke is recommended to ensure protection of the drive against power supply faults.

All DA1 units are intended for indoor installation within controlled environments which meet the condition limits.

Ambient temperature range	Operational	-10 °C to 50 °C
	Storage and Transportation	-40 °C to 60 °C
Max. altitude for rated operation		1000 m (Refer to Manual for Derating for Altitude Information). Installation above 2000 m is not UL approved.
Relative Humidity		< 95 % (non condensing). Drive must be Frost and moisture free at all times.

Branch circuit protection must be installed according to the relevant national codes. Fuse ratings and types are shown on page 7/17.

Suitable Power and motor cables should be selected according to the data.
Power cable connections and tightening torques are shown on page 8/17.



Motor Overload Protection

DA1 provides motor overload protection in accordance with the National Electrical Code (US).

- Where a motor thermistor is not fitted, or not utilised, Thermal Overload Memory Retention must be enabled by setting P4-12 = 1
  Set the parameters P1-08 „Current Limit“ on motor current.
- Where a motor thermistor is fitted and connected to the drive, connection must be carried out according to the information shown on page 9/17.

→
- The maximum motor cable length stated applies to using a shielded motor cable. When using an unshielded cable, the maximum cable length limit may be increased by 50 %. When using the Eaton Drives recommended output choke, the maximum cable length may be increased by 100 %
- The PWM output switching from any inverter when used with a long motor cable length can cause an increase in the voltage at the motor terminals, depending on the motor cable length and inductance. The rise time and peak voltage can affect the service life of the motor.
  Eaton Drives recommend using an output choke for motor cable lengths of 50 m or more to ensure good motor service life
- For UL compliant installation, use Copper wire with a minimum insulation temperature rating of 70 °C, UL Class CC or Class J Fuses

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