



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

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

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

**(fr) Tension électrique dangereuse !**

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

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

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

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

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

**(zh) 触电危险!**

只允许专业人员和受过专业训练的人员进行下列工作。

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

Только специалисты или проинструктированные лица могут выполнять следующие операции.

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

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

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

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

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

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

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

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

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

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

**(fi) Hengenvaarallinen jännite!**

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

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

Níže uvedené práce smějí provádět pouze osoby s elektrotechnickým vzděláním.

**(et) Eluohhtlik! Elektrilöögioht!**

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

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

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

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

Tālāk aprakstītos darbus drīkst veikt tikai elektrospeciālisti un darbam ar elektrotehnikām iekārtām instruetās 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) Nebezpečnosť ohrozenia života elektrickým prúdom!**

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

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

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

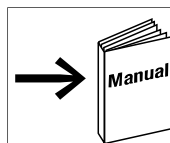
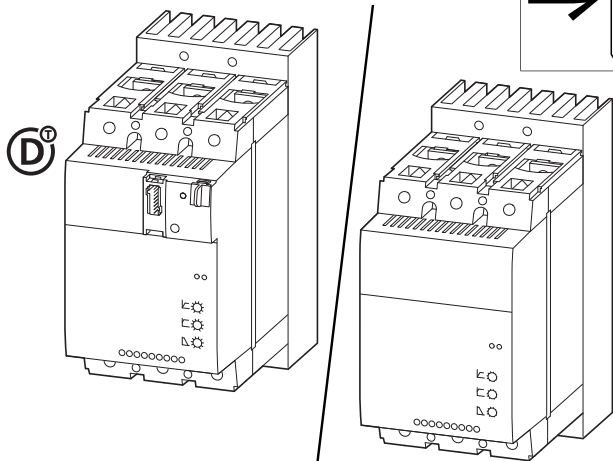
**(ro) Atenție! Pericol electric!**

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

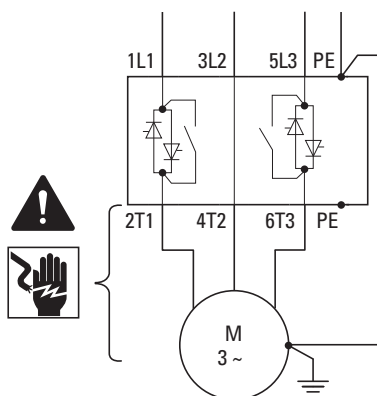
**(hr) Opasnost po život uslijed električne struje!**

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

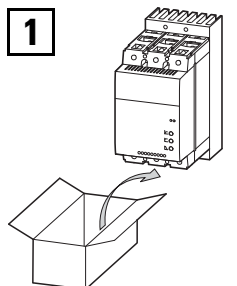
DS7-34...SX041N0-...  
DS7-34...SX055N0-...  
DS7-34...SX070N0-...  
DS7-34...SX081N0-...  
DS7-34...SX100N0-...  
DS7-34...SX135N0-...  
DS7-34...SX160N0-...  
DS7-34...SX200N0-...



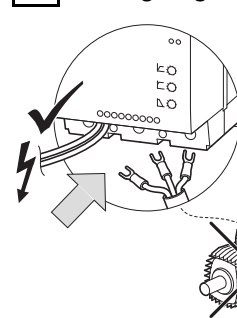
MN03901001...  
[Eaton.eu/documentation](http://Eaton.eu/documentation)



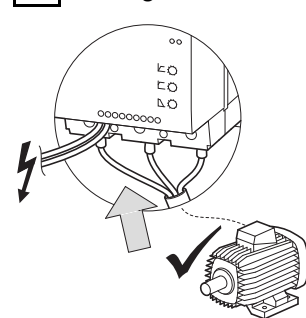
**1**

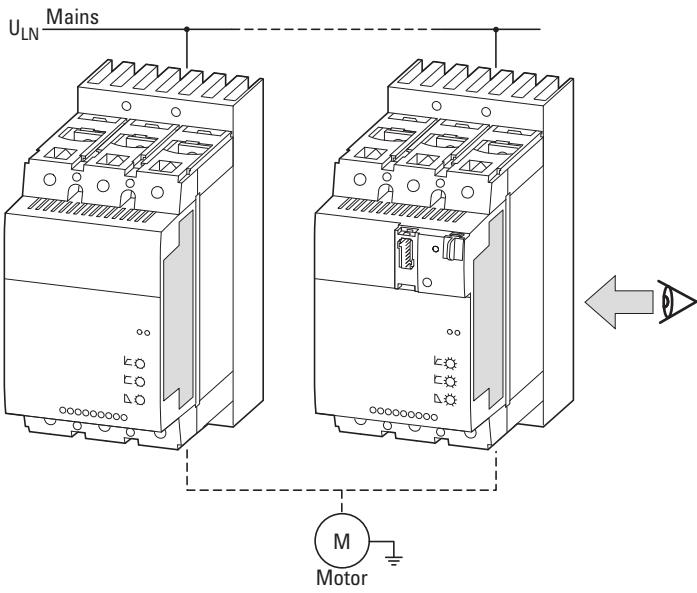


**2** ⚡  $U_c, U_s$



**3** ⚡  $U_e$





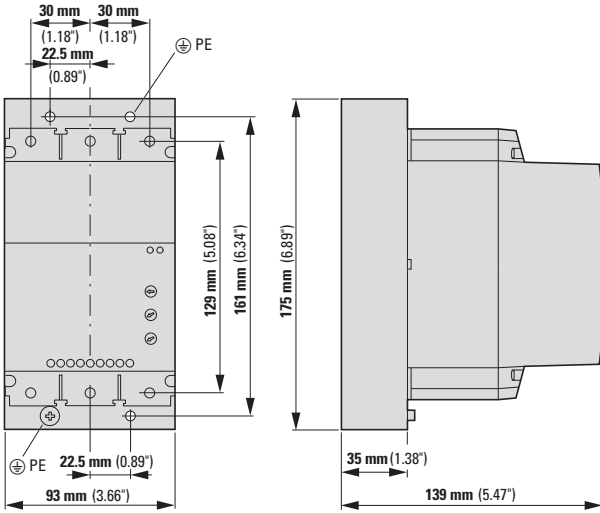
DS7-34 x SXyyy N0-z

N = No Option  
 D = SmartWire-DT  
 $I_e$   
 $U_s, U_c$ :  
 0 = 24 V AC/DC  
 2 = 110/230 V AC  
 D = 24 V DC

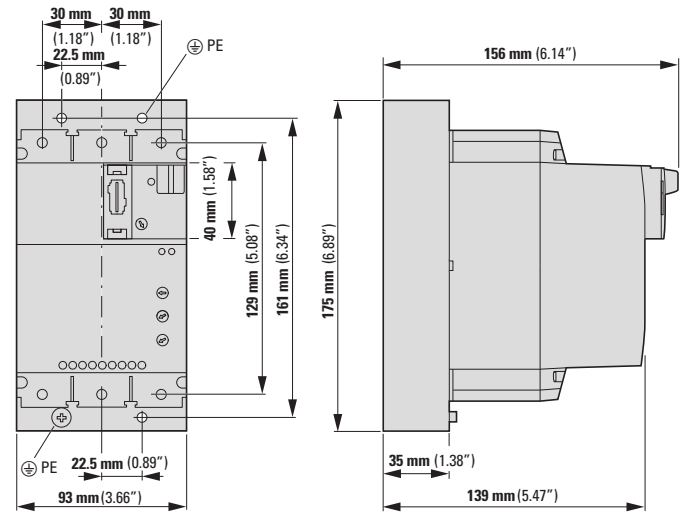
$U_e \leq U_{LN}$   
 200 - 480 V AC 3ph 50/60 Hz


$I_e$	UL Rating	IEC Rating Index 1	IEC Rating Index 2
041	42 FLA, 480 V AC, 50/60 Hz	41 A: AC-53a	3-5: 75-10
055	54 FLA, 480 V AC, 50/60 Hz	55 A: AC-53a	3-5: 75-10
070	68 FLA, 480 V AC, 50/60 Hz	70 A: AC-53a	3-5: 75-10
081	80 FLA, 480 V AC, 50/60 Hz	81 A: AC-53a	3-5: 75-10
100	96 FLA, 480 V AC, 50/60 Hz	100 A: AC-53a	3-5: 75-10
135	124 FLA, 480 V AC, 50/60 Hz	135 A: AC-53a	3-5: 75-10
160	156 FLA, 480 V AC, 50/60 Hz	160 A: AC-53a	3-5: 75-10
200	192 FLA, 480 V AC, 50/60 Hz	200 A: AC-53a	3-5: 75-10

DS7-34...SX041N0-..., DS7-34...SX055N0-..., DS7-34...SX070N0-...,  
 DS7-34...SX081N0-..., DS7-34...SX100N0-...

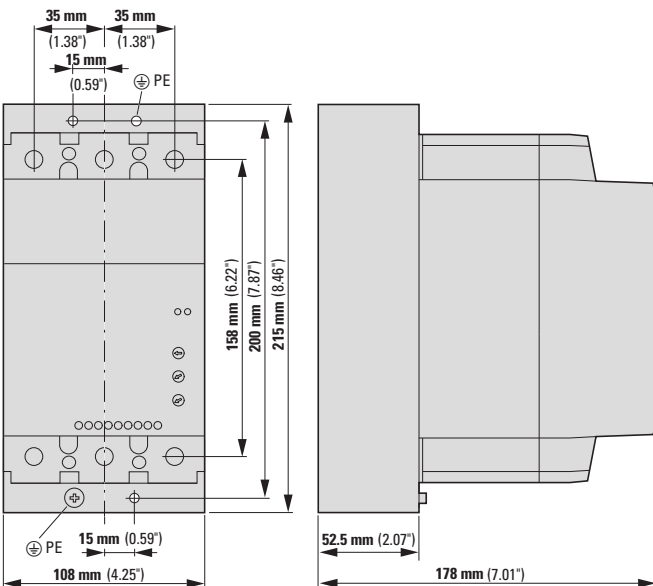


DS7-34...SX041N0-D, DS7-34...SX055N0-D, DS7-34...SX070N0-D,  
 DS7-34...SX081N0-D, DS7-34...SX100N0-D

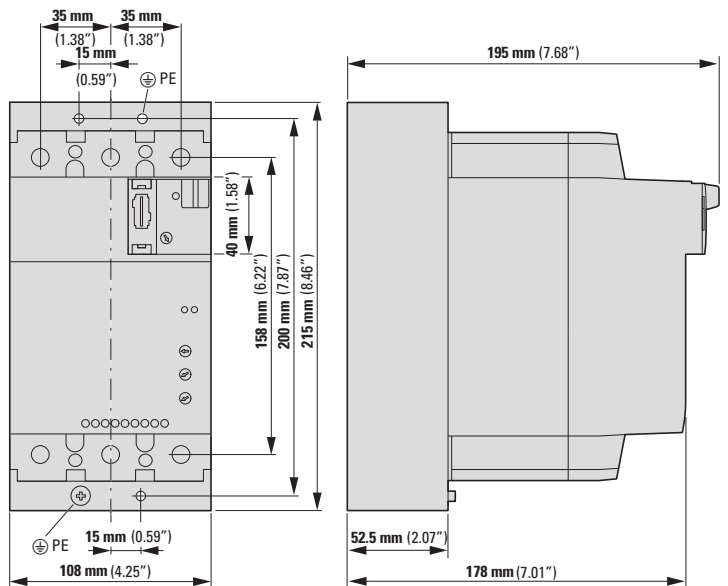



 DS7-340...	1.8
DS7-342...	1.8
DS7-34D...	1.83

DS7-34...SX135N0-..., DS7-34...SX160N0-..., DS7-34...SX200N0-...



DS7-34...SX135N0-D, DS7-34...SX160N0-D, DS7-34...SX200N0-D



 DS7-340...	3.7
DS7-342...	3.7
DS7-34D...	3.73

→ 1 inch = 25.4 mm  
 1 mm = 0.0394 inch  
 1 inch = 1"

→ 1 lbs = 0.454 kg  
 1 kg = 2.2 lbs

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(en) Mounting  
(de) Montage  
(fr) Montage  
(es) Montaje

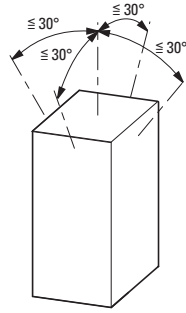
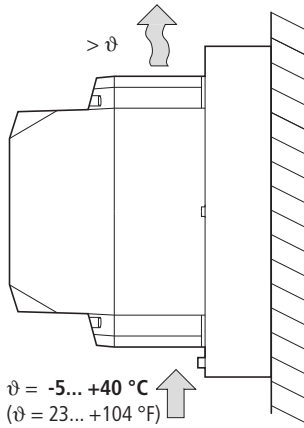
(it) Montaggio  
(zh) 安装  
(ru) Монтаж  
(nl) Montering

(da) Montering  
(el) Τοποθέτηση  
(pt) Montagem  
(sv) Montering

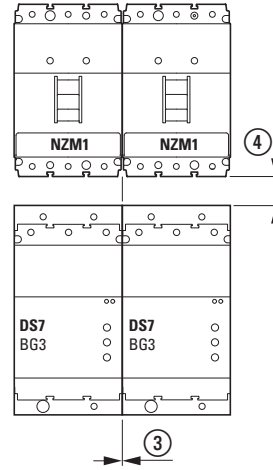
(fi) Asennus  
(cs) Montáž  
(et) Paigaldamine  
(hu) Felszerelés

(lv) Montāža  
(lt) Montavimas  
(pl) Montaż  
(sl) Montaža

(sk) Montáž  
(bg) Монтаж  
(ro) Montarea  
(hr) Montaža



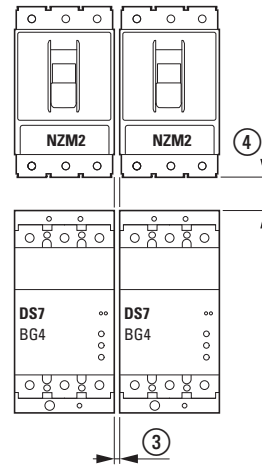
**DS7 + NZM1**



**BG3 = Frame Size 3**

- ① 22.5 mm (0.89")
- ② 161 mm (6.34")
- ③ DS7 + NZM1:  $\geq 5$  mm
- ④  $\geq 25$  mm (0.98")

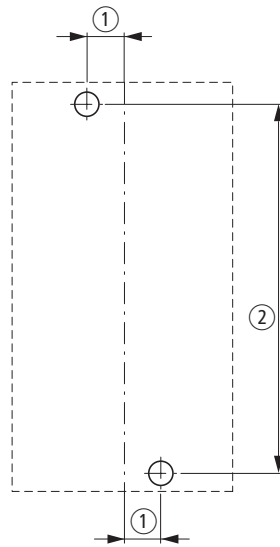
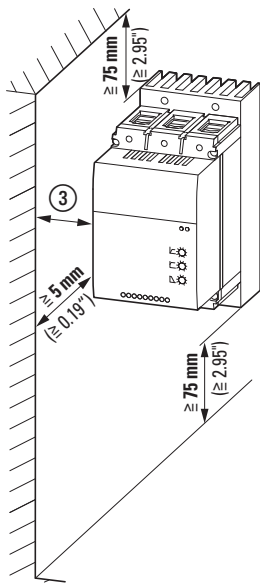
**DS7 + NZM2**



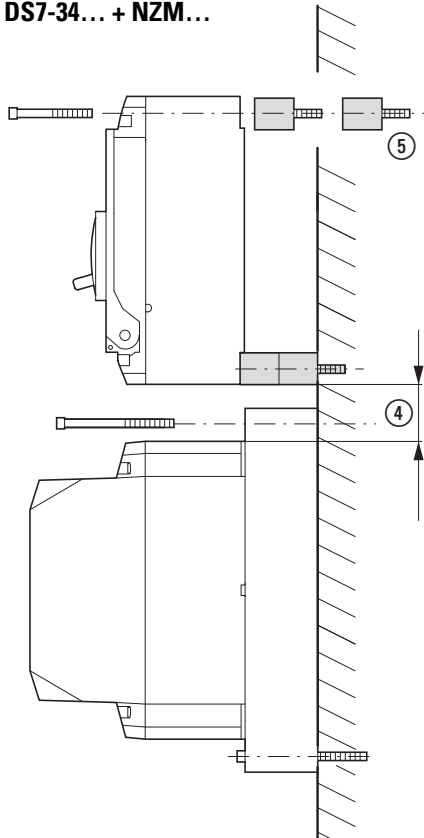
**BG4 = Frame Size 4**

- ① 15 mm (0.59")
- ② 200 mm (7.87")
- ③ DS7 + NZM2:  $\geq 5$  mm ( $\geq 0.197$ ")
- NZM2: IL01206006Z
- ④  $\geq 35$  mm (3.38")

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**DS7-34... + NZM...**

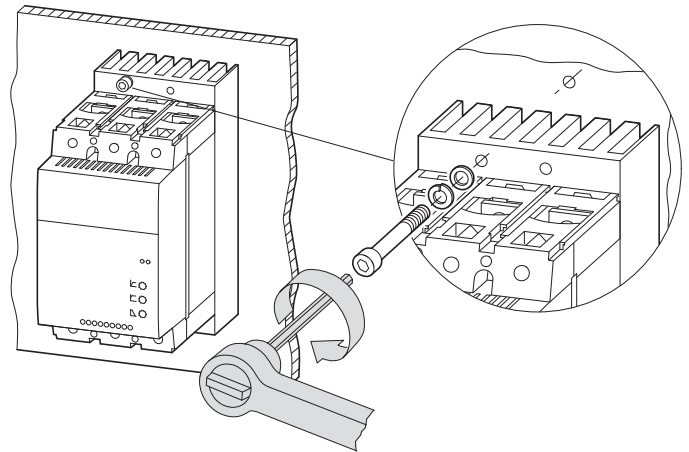


**Frame Size 3 + NZM1**

- ④  $\geq 25$  mm (0.98")
- ⑤ 4 x NZM1/2-XAB

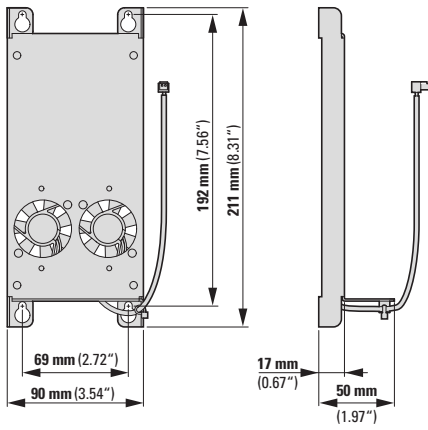
**Frame Size 4 + NZM2**

- ④  $\geq 35$  mm (3.38")
- ⑤ 16 x NZM1/2-XAB

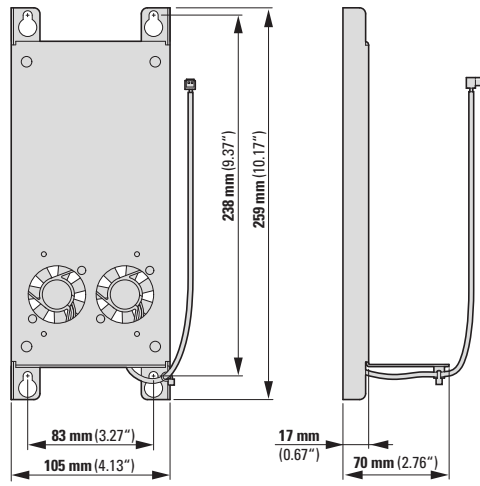


		mm	in	Nm	lb-in
DS7-34...SX041N0-...	2 x M5 x $\geq 55$	4	0.16	9	80
DS7-34...SX055N0-...					
DS7-34...SX070N0-...					
DS7-34...SX081N0-...					
DS7-34...SX100N0-...					
DS7-34...SX135N0-...	2 x M6 x $\geq 65$	5	0.2	14	123
DS7-34...SX160N0-...					
DS7-34...SX200N0-...					

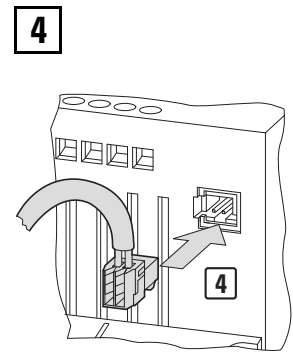
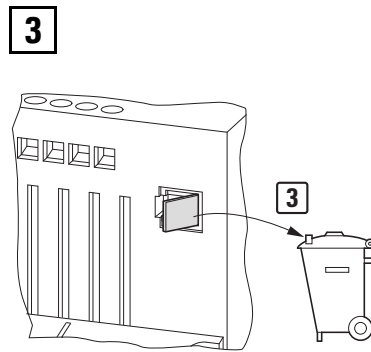
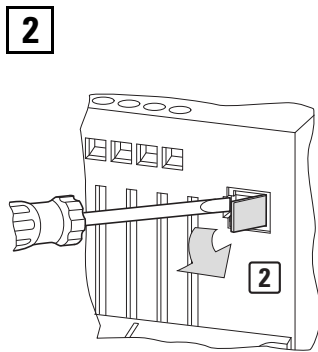
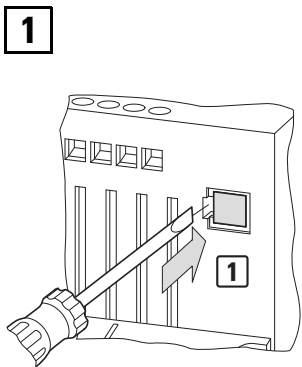
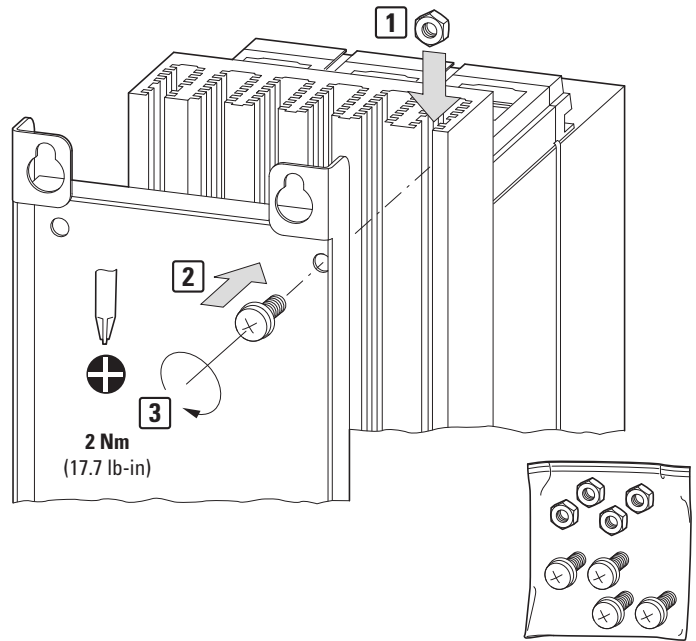
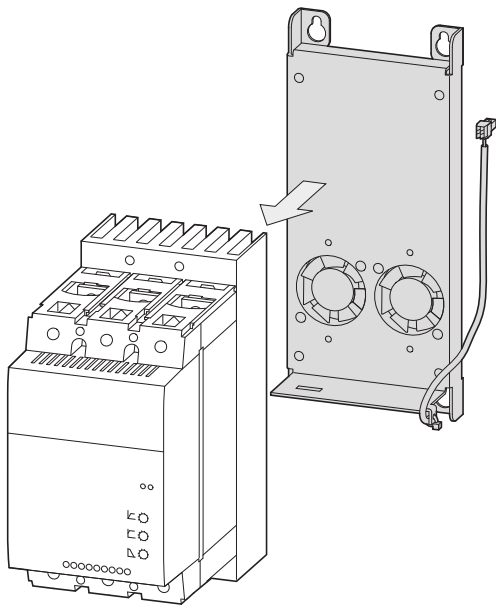
### DS7-FAN-100



### DS7-FAN-200



### DS7-34... + DS7-FAN-100/-200



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**(en) ATTENTION**

Within the scope of the EC Directives, the soft starters of series DS7 and their accessories may be commissioned only provided it is established that the machine fulfils the protective requirements of Machine Directive 2006/42/EC.

**(de) ACHTUNG**

Im Geltungsbereich der EG-Richtlinien dürfen die Softstarter der Reihe DS7 und deren Zubehör nur dann in Betrieb genommen werden, wenn festgestellt wird, dass die Maschine die Schutzanforderungen der Maschinenrichtlinie 2006/42/EG erfüllt.

**(fr) ATTENTION**

En application des directives européennes, les démarreurs progressifs de la gamme DS7 et leurs accessoires ne doivent être mis en service qu'après vérification que la machine répond bien aux exigences de protection de la Directive machines 2006/42/CE.

**(es) CUIDADO**

En el campo de aplicación de las directivas CE, los arrancadores suaves de la serie DS7 y sus accesorios sólo podrán ponerse en servicio cuando se asegure que la máquina cumple las exigencias de seguridad de la directiva sobre maquinaria 2006/42/CE.

**(it) AVVISO**

Nell'ambito di applicazione delle direttive CE, i soft starter della serie DS7 e i relativi accessori potranno essere messi in funzione soltanto qualora si sia accertato che il macchinario è conforme ai requisiti di protezione della direttiva macchine 2006/42/CE.

**(zh) 注意**

根据欧盟设备一致性规范，安装 DS7 系列软启动器及其配件时，应确保设备满足机器规范 2006/42/EG 中关于设备保护的要求。

**(ru) ВНИМАНИЕ**

В сфере действия директив ЕС устройства плавного пуска серии DS7 и их принадлежности разрешается эксплуатировать только в том случае, если установлено, что машина соответствует требованиям по защите Директивы по машинному оборудованию 2006/42/EC.

**(nl) OPGELET**

Binnen het geldigheidsgebied van de EG-richtlijn mogen de softstarters uit de serie DS7 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.

**(da) VIGTIGT**

I EF-direktivernes anvendelsesområde må softstartere i DS7-serien og deres tilbehør kun tages i drift, når det fastslås, at maskinen opfylder beskyttelseskravene i henhold til Maskindirektivet 2006/42/EF.

**(el) ΕΠΑΓΓΡΥΠΝΗΣΗ**

Στο πεδίο εφαρμογής των οδηγιών της ΕΚ, οι ομαλοί εκκινήτες της σειράς DS7 και τα παρελκόμενά τους επιτρέπεται να τίθενται σε λειτουργία μόνο εφόσον διαπιστωθεί ότι το μηχάνημα πληροί τις απαιτήσεις προστασίας της οδηγίας της ΕΚ 2006/42/ΕΚ για τα μηχανήματα.

**(pt) ADVERTÊNCIA**

No âmbito das directivas da CE, os soft-starters da linha DS7 e os respectivos acessórios só podem ser postos em funcionamento quando ficar assegurado que a máquina cumpre com as exigências de segurança da directiva de máquinas 2006/42/CE.

**(sv) OBSERVERA**

Inom omfattningen av EG-riktlinjerna får mjukstartare i serie DS7 och dess tillbehör endast tas i drift när det, fastställts att maskinen uppfyller kraven i maskindirektivet 2006/42/EG.

**(fi) ILMOITUS**

EY-direktiivien pätemisalueella DS7-sarjan ja niiden varusteiden pehmeäkäynnistimen saa ottaa vain silloin käyttöön, kun todetaan, että kone täyttää konedirektiivin 2006/42/EY suojausvaatimukset.

**(cs) UPOZORNĚNÍ**

V rozsahu platnosti směrnice ES směji být startéry k pozvolnému rozběhu řady DS7 a jejich příslušenství uvedeny do provozu pouze tehdy, bude-li zjištěno, že stroj splňuje požadavky ochrany směrnice o strojích 2006/42/ES.

**(et) TÄHELEPANU**

EÜ-direktiivi reguleerimisalas võib sujuvääviteid seeria DS7 ja nende tarvikuid ainult siis kasutusele võtta, kui tehakse kindlaks, et masin vastab masinadirektiivi 2006/42/EÜ kaitse osas kehtivatele nõuetele.

**(hu) VIGYÁZAT**

Az EU irányelvek érvényességi körében a DS7-es sorozatú lágyindítók és azok tartozékai csak akkor helyezhetők üzembe, ha megállapítást nyert, hogy a berendezés a gépek biztonságáról szóló 2006/42/EK irányelv biztonsági követelményeinek megfelel.

**(lv) UZMANĪBU**

Nozarēs, kurās tiek piemērotas EK direktīvas, sērijas DS7 palēninātās darbības starterus un to piederumus atļauts darbināt tikai tad, ja tiek konstatēta mašīnas atbilstība Mašīnu direktīvā 2006/42/EK noteiktajām aizsardzības prasībām.

**(lt) DĖMESIO**

EB direktyvų taikymo srityje DS7 serijos švelnaus paleidimo įrenginius ir jų priedus leidžiama pradėti naudoti tik tada, kai nustatoma, kad įrenginys atitinka Mašinų direktyvos 2006/42/EB keliamus apsaugos reikalavimus.

**(pl) UWAGA**

W obszarze obowiązywania dyrektyw WE softstartery typoszeregu DS7 i ich osprzet wolno uruchamiać tylko wtedy, gdy zostanie stwierdzone, że maszyna spełnia wymagania w zakresie ochrony zgodnie z dyrektywą maszynową 2006/42/WE.

**(sl) POZOR**

V območju veljavnosti EU direktiv se smejo mehki zaganjalniki serije DS7 in njihov pribor izročiti v obratovanje le, ko je ugotovljeno, da stroj izpolnjuje zahteve glede zaščite, ki jih določa Direktiva o strojih 2006/42/ES.

**(sk) UPOZORNENIE**

V oblasti platnosti smerníc ES smú byť softštartéry z rady DS7 a ich príslušenstvo uvedené do prevádzky len vtedy ak je zaistené, že zariadenie spĺňa požiadavky na ochranu smernice o bezpečnosti strojov č. 2006/42/ES.

**(bg) ПРЕДУПРЕЖДЕНИЕ**

В обхвата на директивите на ЕО софтстартерите от линията DS7 и техните принадлежности могат да бъдат пускани в експлоатация само тогава, когато бъде установено, че машината изпълнява изискванията за безопасност на Директива за машините 2006/42/ЕО.

**(ro) ATENȚIE**

În domeniul de valabilitate a directivelor CE, soft starterele seriei DS7 și accesoriile acestora pot fi puse în funcțiune numai dacă s-a stabilit că mașina îndeplinește cerințele de protecție ale directivei pentru mașini 2006/42/CE.

**(hr) POZOR**

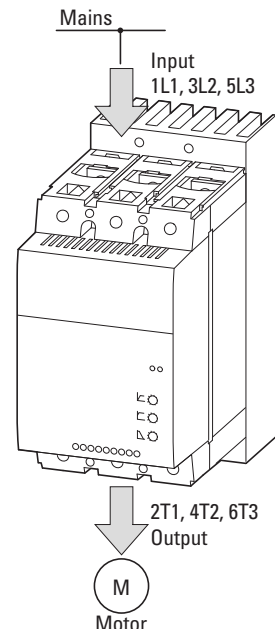
U području valjanosti direktiva EZ uređaji za meko pokretanje serije DS7 i njihov pribor smiju se puštati u pogon samo kada se utvrdi da stroj ispunjava zahtjeve o zaštiti Direktive o strojevima 2006/42/EZ.

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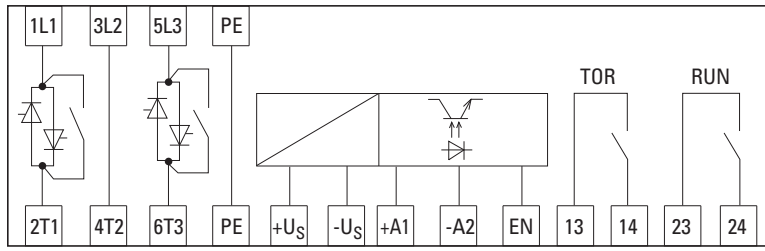
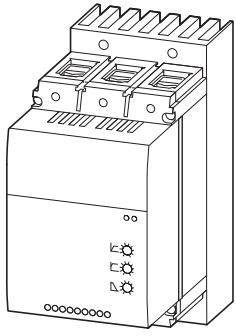
Type	DS7-34xSX...
Input	U <sub>e</sub> 200 - 480 V +10 % -15 % AC 50/60 Hz
DS7-340SX...N0-z	U <sub>c</sub> , U <sub>s</sub> 24 V +10 % -15 % AC/DC
DS7-34DSX...N0-z	U <sub>c</sub> , U <sub>s</sub> 24 V +10 % -15 % DC
DS7-342SX...N0-z	U <sub>c</sub> , U <sub>s</sub> 110 - 230 V +10 % -15 % AC 50/60 Hz
Output	0 - U <sub>e</sub> V AC 50/60 Hz
Product standard	IEC/EN 60947-4-2
Load-Cycle	AC53a: 3 - 5: 75 - 10

**Attention!**

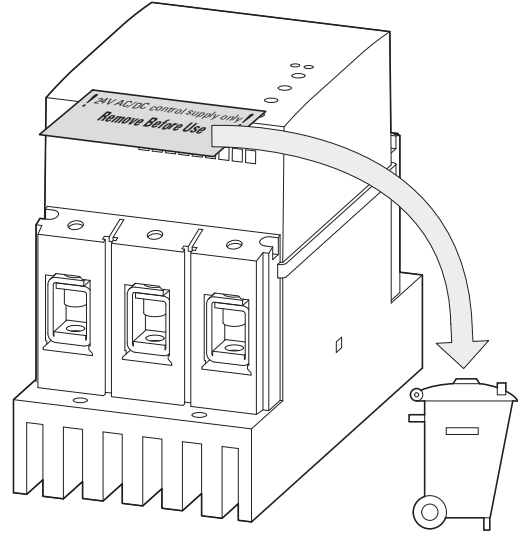
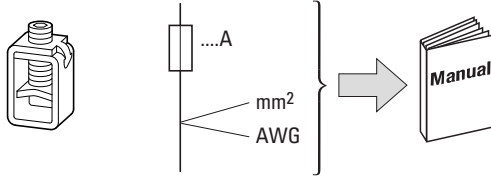
UL/CSA = Cu only, Ampacity per 75 °C Table.



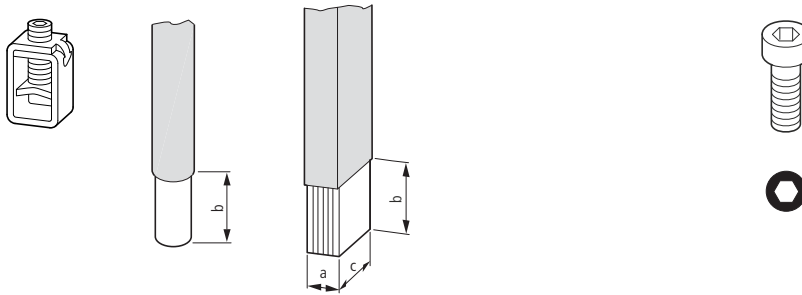
L1 → 1/L1  
 L2 → 3/L2  
 L3 → 5/L3



2/T1 → U  
 4/T2 → V  
 6/T3 → W

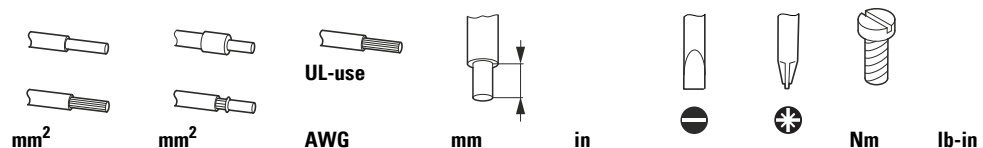


**1L1, 3L2, 5L3, 2T1, 4T2, 6T3**

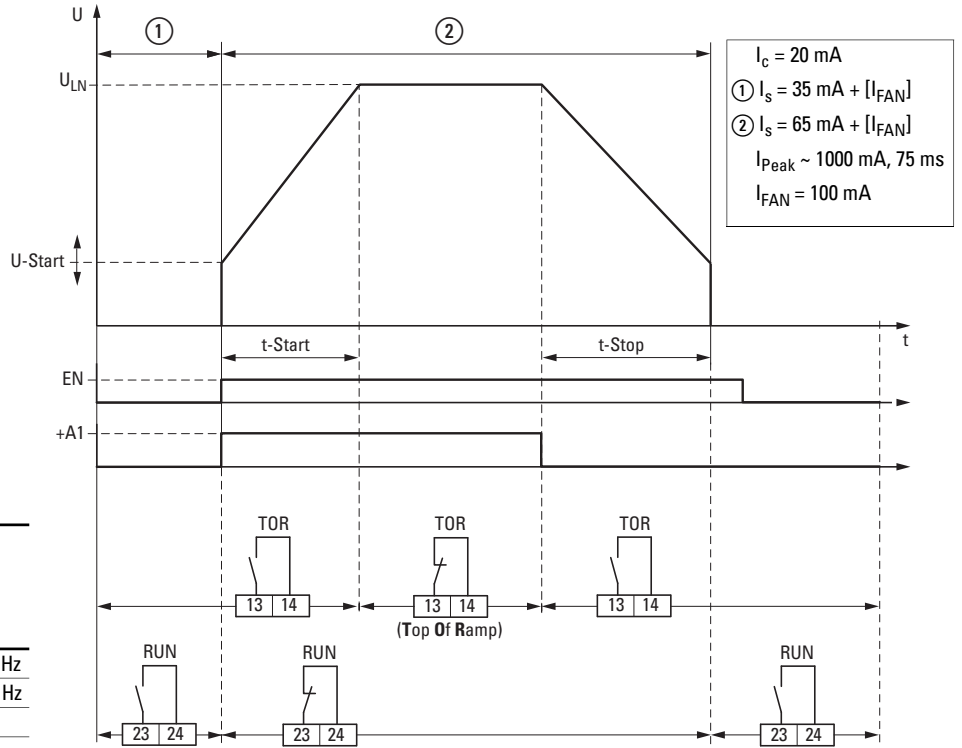
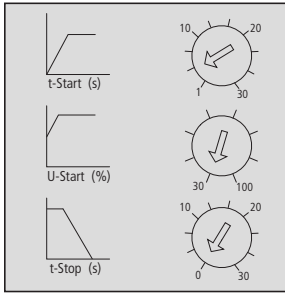


	IEC [mm]			UL-use [in]			mm	in	Nm	lb-in
	a	b	c	a	b	c				
<b>Frame Size 3</b>	10 - 70 mm <sup>2</sup>			AWG12-2/0						
DS7-...041...	2 x 6 - 25 mm <sup>2</sup>									
DS7-...055...	2 - 9 x 9 x 0.8 mm			2 - 9 x 0.35 x 0.03 "						
DS7-...070...	1.6 - 7.2	16.5	9	0.06 - 0.28	0.65	0.35	4	0.16	9	80
DS7-...081...										
DS7-...100...										
<b>Frame Size 4</b>	4 - 185 mm <sup>2</sup>			AWG12 - 350 MCM						
DS7-...135...	2 x 4 - 70 mm <sup>2</sup>			2 x 0.35 x 0.03 "						
DS7-...160...	2 x 9 x 0.8 mm - 10 x 16 x 0.8 mm			10 x 0.63 x 0.03 "						
DS7-...200...	1.6 - 8	22	9 - 16	0.006 - 0.31	0.87	0.35 - 0.63	5	0.2	14	123

**A1/A2/EN, +Us/-Us, 13/14, 23/24**

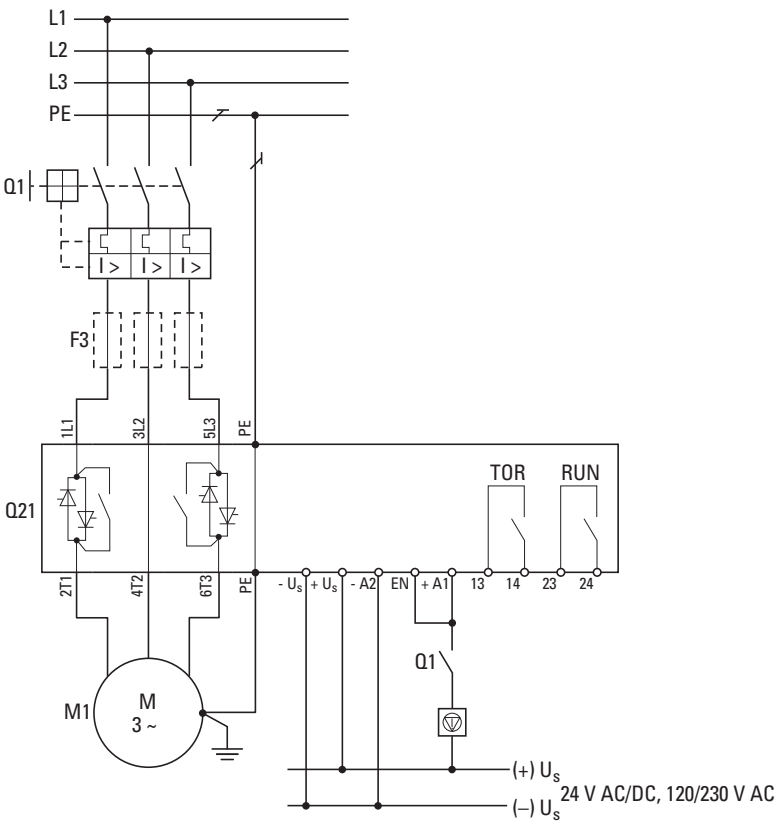


	mm <sup>2</sup>		AWG	mm		in	Nm	lb-in	
	mm <sup>2</sup>	mm <sup>2</sup>		mm	in				
<b>Frame Size 3</b>	0.5 - 2.5	0.5 - 1.5	18 - 14	6	0.24	0.6 x 3.5	PZ2	0.6	5.31
DS7-...041...	2 x 0.5 - 1.0	2 x 0.5 - 0.75	2 x 18 - 16	6	0.24	0.6 x 3.5	PZ2	0.6	5.31
DS7-...055...									
DS7-...070...									
DS7-...081...									
DS7-...100...									
<b>Frame Size 4</b>	0.5 - 2.5	0.5 - 1.5	18 - 14	6	0.24	0.6 x 3.5	PZ2	0.6	5.31
DS7-...135...	2 x 0.5 - 1.0	2 x 0.5 - 0.75	2 x 18 - 16	6	0.24	0.6 x 3.5	PZ2	0.6	5.31
DS7-...160...									
DS7-...200...									



Uc, Us +A	TOR	RUN
	13 14	23 24
DS7-340...	24 V AC/DC	1 A, 24 V AC/DC, 50/60 Hz
DS7-342...	230 V AC	1 A, 230 V AC 11, 50/60 Hz
DS7-34D...	24 V DC	1 A, 24 V DC

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# 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 a soft starter installation complies with Underwriters Laboratories® guidelines.

**NOTICE**

UL/CSA = Cu only, Ampacity per 75 °C Table.

**NOTICE**

Open Type Equipment.

## Terminal Tightening Torque and Wire Size

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

Model Types	Wire size				Control				Torque			
	Power				Control				Power		Control	
	1x AWG	mm <sup>2</sup>	2x AWG	mm <sup>2</sup>	1x AWG	mm <sup>2</sup>	2x AWG	mm <sup>2</sup>	Nm	lb-in	Nm	lb-in
DS7-340SX041NO-N DS7-340SX055NO-N DS7-340SX070NO-N DS7-340SX081NO-N DS7-340SX100NO-N	12-2/0	10 - 70	14 - 8	6 - 25	18 - 14	0.5 - 2.5	18 - 16	0.5 - 1.0	9	79.66	0.6	5.31
DS7-340SX135NO-N DS7-340SX160NO-N DS7-340SX200NO-N	12-MCM350	4 - 185	10-2/0	4 - 70	18 - 14	0.5 - 2.5	18 - 16	0.5 - 1.0	14	123.91	0.6	5.31
DS7-342SX041NO-N DS7-342SX055NO-N DS7-342SX070NO-N DS7-342SX081NO-N DS7-342SX100NO-N	12-2/0	10 - 70	14 - 8	6 - 25	18 - 14	0.5 - 2.5	18 - 16	0.5 - 1.0	9	79.66	0.6	5.31
DS7-342SX135NO-N DS7-342SX160NO-N DS7-342SX200NO-N	12-MCM350	4 - 185	10-2/0	4 - 70	18 - 14	0.5 - 2.5	18 - 16	0.5 - 1.0	14	123.91	0.6	5.31



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

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## Circuit Breaker and Fuse Sizes

The soft starter 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.

**NOTICE**

Suitable for use on a circuit capable of delivering not more than 5,000 rms symmetrical amperes, 480 V maximum.

Model Types	SC Ratings	Branch Circuit Protection	Max. HP [V AC]			Max. kW [V AC]	
			200	240	480	230	400
DS7-340SX041NO-N DS7-342SX041NO-N	5 KA	60 A RK5 fuse or breaker	10	15	30	11	22
DS7-340SX055NO-N DS7-342SX055NO-N	5 KA	60 A RK5 fuse or breaker	15	20	40	15	30
DS7-340SX070NO-N DS7-342SX070NO-N	10 KA	150 A RK5 fuse or breaker	20	25	50	15	37
DS7-340SX081NO-N DS7-342SX081NO-N	10 KA	150 A RK5 fuse or breaker	25	30	60	22	45
DS7-340SX100NO-N DS7-342SX100NO-N	10 KA	150 A RK5 fuse or breaker	30	30	75	30	55
DS7-340SX135NO-N DS7-342SX135NO-N	10 KA	250 A RK5 fuse or breaker	40	50	100	30	75
DS7-340SX160NO-N DS7-342SX160NO-N	10 KA	300 A RK5 fuse or breaker	50	60	125	45	90
DS7-340SX200NO-N DS7-342SX200NO-N	10 KA	350 A RK5 fuse or breaker	60	75	150	55	110

