Product Information

Original Instructions

PowerFlex 755TS Products with TotalFORCE Control

Catalog Numbers 20G2, 20GE

ATTENTION: Read this document and the documents listed in the Additional Resources section about installation, configuration and operation of this equipment before you install, configure, operate or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice. If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

注意：在安装、配置、操作和维护本产品前，请阅读本文档以及 “ 其他资源 ” 部分列出的有关设备安装、配置和操作的相应文档。除了所有适用规范、法律和标准的相关要求之外，用户还必须熟悉安装和接线说明。

安装、调整、投运、使用、组装、拆卸和维护等各项操作必须由经过适当训练的专业人员按照适用的操作规范实施。

如果未按照制造商指定的方式使用该设备，则可能会损害设备提供的保护。

ATENCIÓN: Antes de instalar, configurar, poner en funcionamiento o realizar el mantenimiento de este producto, lea este documento y los documentos listados en la sección Recursos adicionales acerca de la instalación, configuración y operación de este equipo. Los usuarios deben familiarizarse con las instrucciones de instalación y cableado y con los requisitos de todos los códigos, leyes y estándares vigentes.

El personal debidamente capacitado debe realizar las actividades relacionadas a la instalación, ajustes, puesta en servicio, uso, ensamblaje, desensamblaje y mantenimiento de conformidad con el código de práctica aplicable. Si este equipo se usa de una manera no especificada por el fabricante, la protección provista por el equipo puede resultar afectada.

ATENÇÃO: Leia este e os demais documentos sobre instalação, configuração e operação do equipamento que estão na seção Recursos adicionais antes de instalar, configurar, operar ou manter este produto. Os usuários devem se familiarizar com as instruções de instalação e fiação além das especificações para todos os códigos, leis e normas aplicáveis.

É necessário que as atividades, incluindo instalação, ajustes, colocação em serviço, utilização, montagem, desmontagem e manutenção sejam realizadas por pessoal qualificado e especializado, de acordo com o código de prática aplicável.

Caso este equipamento seja utilizado de maneira não estabelecida pelo fabricante, a proteção fornecida pelo equipamento pode ficar prejudicada.

ВНИМАНИЕ: Перед тем как устанавливать, настраивать, эксплуатировать или обслуживать данное оборудование, прочитайте этот документ и документы, перечисленные в разделе «Дополнительные ресурсы». В этих документах изложены сведения об установке, настройке и эксплуатации данного оборудования. Пользователи обязаны ознакомиться с инструкциями по установке и прокладке соединений, а также с требованиями всех применимых норм, законов и стандартов.

Все действия, включая установку, наладку, ввод в эксплуатацию, использование, сборку, разборку и техническое обслуживание, должны выполняться обученным персоналом в соответствии с применимыми нормами и правилами.

Если оборудование используется не предусмотренным производителем образом, защита оборудования может быть нарушена.

注意：本製品を設置、構成、稼動または保守する前に、本書および本機器の設置、設定、操作についての参考資料の該当箇所に記載されている文書に目を通してください。ユーザは、すべての該当する条例、法律、規格の要件に加えて、設置および配線の手順に習熟している必要があります。

設置調整、運転の開始、使用、組立て、解体、保守を含む諸作業は、該当する実施規則に従って訓練を受けた適切な作業員が実行する必要があります。

本機器が製造メーカにより指定されていない方法で使用されている場合、機器により提供されている保護が損なわれる恐れがあります。

ACHTUNG: Lesen Sie dieses Dokument und die im Abschnitt „Weitere Informationen“aufgeführten Dokumente, die Informationen zu Installation, Konfiguration und Bedienung dieses Produkts enthalten, bevor Sie dieses Produkt installieren, konfigurieren, bedienen oder warten. Anwender müssen sich neben den Bestimmungen aller anwendbaren Vorschriften, Gesetze und Normen zusätzlich mit den Installations- und Verdrahtungsanweisungen vertraut machen.

Arbeiten im Rahmen der Installation, Anpassung, Inbetriebnahme, Verwendung, Montage, Demontage oder Instandhaltung dürfen nur durch ausreichend geschulte Mitarbeiter und in Übereinstimmung mit den anwendbaren Ausführungsvorschriften vorgenommen werden.

Wenn das Gerät in einer Weise verwendet wird, die vom Hersteller nicht vorgesehen ist, kann die Schutzfunktion beeinträchtigt sein.

ATTENTION : Lisez ce document et les documents listés dans la section Ressources complémentaires relatifs à l'installation, la configuration et le fonctionnement de cet équipement avant d'installer, configurer, utiliser ou entretenir ce produit. Les utilisateurs doivent se familiariser avec les instructions d'installation et de câblage en plus des exigences relatives aux codes, lois et normes en vigueur.

Les activités relatives à l'installation, le réglage, la mise en service, l'utilisation, l'assemblage, le démontage et l'entretien doivent être réalisées par des personnes formées selon le code de pratique en vigueur.

Si cet équipement est utilisé d'une façon qui n'a pas été définie par le fabricant, la protection fournie par l'équipement peut être compromise.

주의: 본 제품 설치, 설정, 작동 또는 유지 보수하기 전에 본 문서를 포함하여 설치, 설정 및 작동에 관한 참고 자료 섹션의 문서들을 반드시 읽고 숙지하십시오. 사용자는 모든 관련 규정, 법규 및 표준에서 요구하는 사항에 대해 반드시 설치 및 배선 지침을 숙지해야 합니다 .

설치 , 조정 , 가동 , 사용 , 조립 , 분해 , 유지보수 등 모든 작업은 관련 규정에 따라 적절한 교육을 받은 사용자를 통해서만 수행해야 합니다 .

본 장비를 제조사가 명시하지 않은 방법으로 사용하면 장비의 보호 기능이 손상될 수 있습니다 .

ATTENZIONE Prima di installare, configurare ed utilizzare il prodotto, o effettuare interventi di manutenzione su di esso, leggere il presente documento ed i documenti elencati nella sezione "Altre risorse", riguardanti l'installazione, la configurazione ed il funzionamento dell'apparecchiatura. Gli utenti devono leggere e comprendere le istruzioni di installazione e cablaggio, oltre ai requisiti previsti dalle leggi, codici e standard applicabili.

Le attività come installazione, regolazioni, utilizzo, assemblaggio, disassemblaggio e manutenzione devono essere svolte da personale adeguatamente addestrato, nel rispetto delle procedure previste.

Qualora l'apparecchio venga utilizzato con modalità diverse da quanto previsto dal produttore, la sua funzione di protezione potrebbe venire compromessa.

DİKKAT: Bu ürünün kurulumu, yapılandırılması, işletilmesi veya bakımı öncesinde bu dokümanı ve bu ekipmanın kurulumu, yapılandırılması ve işletimi ile ilgili İlave Kaynaklar bölümünde yer listelenmiş dokümanları okuyun. Kullanıcılar yürürlükteki tüm yönetmelikler, yasalar ve standartların gereksinimlerine ek olarak kurulum ve kablolama talimatlarını da öğrenmek zorundadır.

Kurulum, ayarlama, hizmete alma, kullanma, parçaları birleştirme, parçaları sökme ve bakım gibi aktiviteler sadece uygun eğitimleri almış kişiler tarafından yürürlükteki uygulama yönetmeliklerine uygun şekilde yapılabilir.

Bu ekipman üretici tarafından belirlenmiş amacın dışında kullanılırsa, ekipman tarafından sağlanan koruma bozulabilir.

注意事項：在安裝、設定、操作或維護本產品前，請先閱讀此文件以及列於 「其他資源」章節中有關安裝、設定與操作此設備的文件。使用者必須熟悉安裝和配線指示，並符合所有法規、法律和標準要求。

包括安裝、調整、交付使用、使用、組裝、拆卸和維護等動作都必須交由已經過適當訓練的人員進行，以符合適用的實作法規。

如果將設備用於非製造商指定的用途時，可能會造成設備所提供的保護功能受損。

POZOR: Než začnete instalovat, konfigurovat či provozovat tento výrobek nebo provádět jeho údržbu, přečtěte si tento dokument a dokumenty uvedené v části Dodatečné zdroje ohledně instalace, konfigurace a provozu tohoto zařízení. Uživatelé se musejí vedle požadavků všech relevantních vyhlášek, zákonů a norem nutně seznámit také s pokyny pro instalaci a elektrické zapojení.

Činnosti zahrnující instalaci, nastavení, uvedení do provozu, užívání, montáž, demontáž a údržbu musí vykonávat vhodně proškolený personál v souladu s příslušnými prováděcími předpisy.

Pokud se toto zařízení používá způsobem neodpovídajícím specifikaci výrobce, může být narušena ochrana, kterou toto zařízení poskytuje.

UWAGA: Przed instalacją, konfiguracją, użytkowaniem lub konserwacją tego produktu należy przeczytać niniejszy dokument oraz wszystkie dokumenty wymienione w sekcji Dodatkowe źródła omawiające instalację, konfigurację i procedury użytkowania tego urządzenia. Użytkownicy mają obowiązek zapoznać się z instrukcjami dotyczącymi instalacji oraz oprzewodowania, jak również z obowiązującymi kodeksami, prawem i normami.

Działania obejmujące instalację, regulację, przekazanie do użytkowania, użytkowanie, montaż, demontaż oraz konserwację muszą być wykonywane przez odpowiednio przeszkolony personel zgodnie z obowiązującym kodeksem postępowania.

Jeśli urządzenie jest użytkowane w sposób inny niż określony przez producenta, zabezpieczenie zapewniane przez urządzenie może zostać ograniczone.

OBS! Läs detta dokument samt dokumentet, som står listat i avsnittet Övriga resurser, om installation, konfigurering och drift av denna utrustning innan du installerar, konfigurerar eller börjar använda eller utföra underhållsarbete på produkten. Användare måste bekanta sig med instruktioner för installation och kabeldragning, förutom krav enligt gällande koder, lagar och standarder.

Åtgärder som installation, justering, service, användning, montering, demontering och underhållsarbete måste utföras av personal med lämplig utbildning enligt lämpligt bruk.

Om denna utrustning används på ett sätt som inte anges av tillverkaren kan det hända att utrustningens skyddsanordningar försätts ur funktion.

LET OP: Lees dit document en de documenten die genoemd worden in de paragraaf Aanvullende informatie over de installatie, configuratie en bediening van deze apparatuur voordat u dit product installeert, configureert, bediend of onderhoudt. Gebruikers moeten zich vertrouwd maken met de installatie en de bedradingsinstructies, naast de vereisten van alle toepasselijke regels, wetten en normen.

Activiteiten zoals het installeren, afstellen, in gebruik stellen, gebruiken, monteren, demonteren en het uitvoeren van onderhoud mogen uitsluitend worden uitgevoerd door hiervoor opgeleid personeel en in overeenstemming met de geldende praktijkregels.

Indien de apparatuur wordt gebruikt op een wijze die niet is gespecificeerd door de fabrikant, dan bestaat het gevaar dat de beveiliging van de apparatuur niet goed werkt.

Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
PowerFlex® 755TS Products with TotalFORCE® Control Installation Instructions, publication 750-IN119	Provides the basic steps to install PowerFlex 755TS drives.
PowerFlex TotalFORCE Firmware Documentation Set: • PowerFlex Drives with TotalFORCE Control Programming Manual, publication 750-PM101 • PowerFlex Drives with TotalFORCE Control Parameters Reference Data, publication 750-RD101 • PowerFlex Drives with TotalFORCE Control Conditions Reference Data, publication 750-RD102	Provides detailed information on: • Startup, control algorithms, and status indicators • Parameters and programming • Faults, alarms, events, and troubleshooting
PowerFlex 755TS Products with TotalFORCE Control Technical Data, publication 750-TD104	Provides detailed information on: • Drive specifications • Option specifications • Fuse and circuit breaker ratings
PowerFlex 755TS Products with TotalFORCE Control Hardware Service Manual, publication 750-TG101	Provides detailed information on: • Preventive maintenance • Component testing • Hardware replacement procedures
Drives in Common Bus Configurations with PowerFlex 755TM Bus Supplies Application Techniques, publication DRIVES-AT005	Provides basic information to properly wire and ground the following products in common bus applications: • PowerFlex 755TM Common Bus Inverters • PowerFlex 750-Series AC and DC Input Drives • Kinetix® 5700 Servo Drives
Wiring and Grounding Guidelines for Pulse Width Modulated (PWM) AC Drives, publication DRIVES-IN001	Provides basic information to properly wire and ground PWM AC drives.
PowerFlex AC Drive Performance Specifications per Ecodesign Regulation (EU) 2019/1781 and UK SI 2021 No. 745, publication PFLEX-TD003	Provides specifications per EU and UK Ecodesign, including efficiency class.
Product Certifications website, rok.auto/certifications	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at rok.auto/literature. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

Product Safety

ATTENTION: Only qualified personnel familiar with adjustable frequency AC drives and associated machinery should plan or implement the installation, start up, and subsequent maintenance of the system. Failure to comply can result in personal injury and/or equipment damage.

ATTENTION: Incorrectly applied or installed PowerFlex 755TS products with TotalFORCE control can result in component damage or a reduction in product life. Wiring or application errors such as under sizing the motor, incorrect or inadequate AC supply, or excessive ambient air temperatures can result in malfunction of the system.

ATTENTION: To avoid an electric shock hazard, verify that the voltage on the bus capacitors has discharged completely before servicing.
Frames 1...7: Measure the DC bus voltage at the power terminal block by measuring between the +DC and -DC terminals or between the +DC and -DC test point sockets if equipped. Also measure between the +DC terminal or test point and the chassis, and between the -DC terminal or test point and the chassis. The voltage must be zero for all three measurements.

IMPORTANT PowerFlex 755TS products without Corrosive Gas Protection (XT) **must** **not** be installed in an area where the ambient atmosphere contains volatile or corrosive gas, vapors, or dust. If the product is to be stored, it must be stored in an area where it is not exposed to a corrosive atmosphere.
PowerFlex 750-Series products **must** **not** be stored or installed in an environment that contains conductive pollutants.

Enclosure Options

Frame	Enclosure Type	Enclosure Code (Position 6)
1	IP20, NEMA/UL Open Type	R
2...5	Flange (NEMA/UL Type 4X/12 back)	F
2...7	IP54, NEMA/UL Type 12	G
2...7	IP20/IP00, NEMA/UL Open Type	N

Catalog Number Explanation (20GEAND248AN2NNNNN)							
Position	1...3	4	5	6	7	8...10	11...18
Description	Drive Type	Corrosive Gas Protection (XT) and Cooling Type	Input Type	Enclosure	Voltage Rating	ND Rating	Options

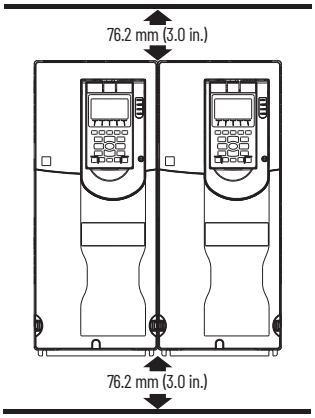
Environmental Specifications

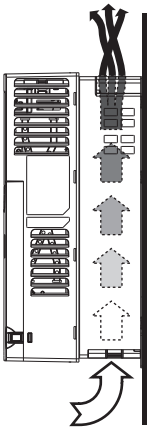
Enclosure Rating	Operating Range without Derating (1)	Frames
Stand-alone/Wall-mount IP20, NEMA/UL Open Type: IP00, NEMA/UL Open Type: IP20, NEMA/UL Type 1 (with hood): IP20, NEMA/UL Type 1 (with label): IP54, NEMA/UL Type 12:	 -20...+50 °C (-4...+122 °F) -20...+50 °C (-4...+122 °F) -20...+40 °C (-4...+104 °F) -20...+40 °C (-4...+104 °F) -20...+40 °C (-4...+104 °F)	 Frames 1...5, All Ratings Frames 6...7, All Ratings Frames 1...5, All Ratings Frames 6...7, All Ratings Frames 2...7, All Ratings
Flange mount—front IP20, NEMA/UL Open Type: IP00, NEMA/UL Open Type:	 -20...+50 °C (-4...+122 °F) -20...+50 °C (-4...+122 °F)	 Frames 2...5, All Ratings Frames 6...7, All Ratings
Flange Mount—back/heatsink IP66, NEMA/UL Type 4X/12:	 -20...+40 °C (-4...+104 °F)	 Frames 2...5, All Ratings
Storage temperature (all constructions)	-40...+70 °C (-40...+158 °F)	Frames 1...7, All Ratings
Relative humidity	5...95% non-condensing	
Pollution degree	PowerFlex 755TS products with TotalFORCE control are designed to meet Pollution Degree 2 per UL61800-5-1.	

(1) For derating guidelines see the PowerFlex 755TS Products with TotalFORCE Control Technical Data, publication 750-TD104.

Minimum Mounting Clearances for Operation and Servicing

Specified vertical clearance requirements are intended to be from the drive to the closest object that can restrict airflow through the drive heatsink and chassis. The drive must be mounted in a vertical orientation as shown, and must make full contact with the mounting surface. Do not use standoffs or spacers. In addition, inlet air temperature must not exceed the product specification.





Mounting Considerations

- Mount the drive upright on a flat, vertical, and level surface.
- Verify that the product makes full contact with the mounting surface.
- Do not use standoffs or spacers.
- Do not expose to dust or metallic particles.
- Do not expose products without Corrosive Gas Protection (XT) to a corrosive atmosphere.
- Protect from moisture and direct sunlight (unless rated for outdoor use).
- Inlet air temperature must not exceed the product specification.

Recommended Mounting Hardware

- Frames 1...6: M6 (1/4 in.)
- Frame 7: M8 (5/16 in.)

Approximate Drive Weights

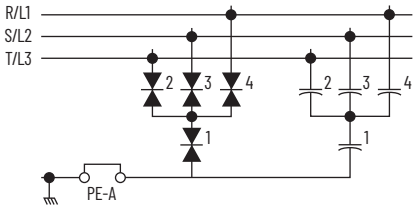
Drive	Frame Size	Drive Rating		Enclosure Code/Weight [kg (lb)]			
		kW(1)	Hp(2)	F	G	N	R
Standard AC Input and Common DC Input	1	0.37...7.5	0.5...10				6 (13)
	2	0.37...11	0.5...15	8 (18)	8 (18)	8 (18)	
	3	7.5...30	10...40	12 (26)	12 (26)	12 (26)	
	4	15...45	20...60	14 (31)	14 (31)	14 (31)	
	5	18.2...55	25...75	21 (46)	21 (46)	21 (46)	
	6	30...132	30...200	48 (106)	100 (220)	48 (106)	
	7	66...270	100...400	72 (159)	132 (291)	82 (181)	

(1) kW ratings are for 208V, 400V, and 690V drives.
(2) Hp ratings are for 240V, 480V, and 600V drives.

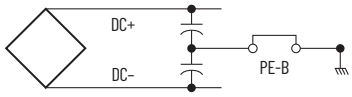
Power Jumper Configuration

PowerFlex 755TS drives contain protective MOVs and common mode capacitors that are referenced to ground. To guard against drive damage and/or operation problems, these devices must be properly configured according to Table 1.

MOV and AC EMI Capacitor Phase to Ground



Common Mode Capacitors to Ground



ATTENTION: Risk of equipment damage exists. The drive power source type must be accurately determined. Jumpers PE-A and PE-B must be configured for the power source type according to the following recommendations.

Table 1 - Recommended Power Jumper Configurations

Power Source Type	Jumper PE-A (1)(2) (MOV/Input filter caps)	Jumper PE-B (DC bus common mode caps)	Benefits of correct configuration on power source type
Non-Solid Ground or Corner Ground • AC fed ungrounded • Impedance grounded • B phase ground • DC fed from a passive converter	Disconnected	Disconnected	Helps to avoid severe equipment damage when ground fault occurs
DC fed from an active converter	Disconnected	Disconnected	Helps to avoid damage to filter capacitors
Solid Ground • AC fed solidly grounded • DC fed from passive rectifier that has a solidly grounded AC source	Connected	Connected	• Reduced electrical noise • Most stable operation • EMC compliance • Reduced voltage stress on components and motor bearings

(1) When MOVs are disconnected, the power system must have its own transient protection to conform known and controlled voltages.
(2) Frames 5...7 common DC input drives do not have the PE-A jumper.

To connect or disconnect these devices, see the PowerFlex 755TS Products with TotalFORCE Control Installation Instructions, publication 750-IN119, Chapter 5, Power Wiring, Drive Power Jumper Configuration.

Leakage Current

- PowerFlex 755TS drives produce leakage current in the protective earthing conductor which exceeds 3.5 mA AC and/or 10 mA DC. The minimum size of the protective earthing (grounding) conductor that is used in the application must comply with local safety regulations for high protective earthing conductor current equipment. A fixed connection with individual conductor must have a cross section of at least 10 mm^2 copper construction or a fixed connection as a part of a multi-conductor cable with cross section of at least 2.5 mm^2 copper construction.
- PowerFlex 755TS drives produce DC current in the protective earthing conductor and may reduce the ability of a residual current device (RCD) or residual current monitor (RCM) of type A or AC to provide protection for the drive and other equipment in the installation.

Intermittent Overload

Normal Duty:	110% Overload capability for up to 1 minute out of 10 minutes 150% Overload capability for up to 3 seconds out of 60 seconds
Heavy Duty:	150% Overload capability for up to 1 minute out of 10 minutes 180% Overload capability for up to 3 seconds out of 60 seconds

Motor Overload Protection

Electronic Motor Overload Protection:	Selectable motor overload protection from class 1 to class 60 according to NEC article 430 and motor over-temperature protection according to NEC article 430.126 (A)(2). UL File E59272.

Short Circuit Current Rating

Maximum Short Circuit Current Rating:	100,000 Amps RMS symmetrical

Branch Circuit Short Circuit Protection

Integral solid-state short circuit protection does not provide branch circuit protection. Branch circuit protection must be provided in accordance with the National Electric Code (NEC) and any additional local codes, or the equivalent.

Fuse and Circuit Breaker Ratings

The tables in this section provide recommended AC line input fuse and circuit breaker information. See the following Fuses and Circuit Breakers sections for CE and UL requirements. The size recommendations are based on 40 °C (104 °F) and the U.S. NEC. Other country, state, or local codes can require different ratings. DC link fuse recommendations for DC input drives are also provided.

Fuses

The recommended fuse types are listed here. Select a fuse rating within the range specified in the tables starting on page 9.

- CE – Type gG fuses
- UL – Fast-acting Class J, T

IMPORTANT	For maximum protection of the drive and its internal components, we recommend the use of fuses to other methods of circuit protection. Fuses reduce the risk of drive damage from power quality events and improves machine and process utilization.

Circuit Breakers

The non-fuse listings in the following tables include inverse time circuit breakers, and 140M/140MT self-protected combination motor controllers. If one of these methods is chosen for protection, the following requirements apply, for both UL and CE installations:

- 140M/140MT self-protected combination motor controllers are acceptable if the installation conforms with the requirements specified in the tables.
- Inverse time circuit breakers shall only be used with a fuse specified in the tables.

208V AC Input Protection Devices—Drive Frames 1...7

Applied Rating (1)	Frame (2)	Cont. Output Amps	Sized For Normal Duty			Sized For Heavy Duty			Input Quantities		AC Input Protection Devices					
			Cat. No.	Output Overload Amps		Cat. No.	Output Overload Amps		Cont. AC Input		Fuse		Circuit Breaker (6)		140M/140MT Type E Combination Motor Controller with Adjustable Current Range (7) (8)	
kW				1 Min	3 s		1 Min	3 s	kVA	Amps	Min [A](4)	Max [A](5)	Max [A]	Min. Encl. Vol. [in.^{3}]	Cat. No.	Min Enclosure Volume [in.^{3}] (11)
208V AC Input																
0.37	1	2.5	20G...B2P2	2.8	3.8	20G...B2P2	2.8	3.8	0.8	2.3	3	5	15	–	M-xxx-B25 (9)	3441
						20G...B4P2	5.3	7.2	0.8	2.3	3	5	15	–	M-xxx-B25 (9)	3441
0.75	1	4.8	20G...B4P2	5.3	7.2	20G...B6P8	8.6	11.7	1.5	4.3	6	10	20	–	M-xxx-B63 (9)	3441
1.5	1	7.8	20G...B6P8	8.6	11.7	20G...B9P6	12.1	16.5	2.6	7.1	9	20	30	–	M-xxx-C10 (9)	3441
2.2	1	11	20G...B9P6	12.1	16.5	20G...B015	16.9	23	3.6	10.0	12	20	40	–	M-xxx-C16 (10)	3441
4.0	1	15.3	20G...B015	16.9	23	20G...B022 (3)	24.2	33	5.0	13.9	20	30	60	–	M-xxx-C16 (10)	3441
0.37	2	2.5	20G...B2P2	3.8	4.5	20G...B2P2	3.8	4.5	0.8	2.3	3	5	15	–	M-xxx-B25 (9)	3441
0.75	2	4.8	20G...B4P2	7.2	8.6	20G...B4P2	7.2	8.6	1.5	4.3	6	10	20	–	M-xxx-B63 (9)	3441
1.5	2	7.8	20G...B6P8	11.7	14	20G...B6P8	11.7	14.0	2.6	7.1	9	15	30	–	M-xxx-C10 (9)	3441
2.2	2	11	20G...B9P6	16.5	19.8	20G...B9P6	16.5	19.8	3.6	10.0	12	20	40	–	M-xxx-C16 (10)	3441
						20G...B015	16.9	23.0	3.6	10.0	12	25	40	–	M-xxx-C16 (10)	3441
4.0	2	17.5	20G...B015	19.3	26.3	20G...B022	24.2	33.0	5.7	15.9	20	35	70	–	M-xxx-C20 (10)	3441
5.5	2	22	20G...B022	24.2	33	20G...B028 (3)	35.4	48.3	7.2	19.9	25	45	80	–	M-F8E-C25	3441
7.5	3	32.2	20G...B028	35.4	48.3	20G...B042	48.3	64.5	10.5	29.2	15	70	125	–	M-F8E-C32	5098
11	3	43	20G...B042	47.3	64.5	20G...B055	64.5	90	14.1	39.0	50	90	150	–	M-F8E-C45	5098
	4					20G...B054	64.5	90	14.1	39.0	50	90	150	–	M-F8E-C45	9086
15	4	60	20G...B054	66	90	20G...B070 (3)	90	117.3	19.6	54.4	70	100	225	–	–	–
						20G...B071	90	117.3	19.6	54.4	70	100	225	–	–	–
	3	61	20G...B055	67.1	91.5				19.9	55.3	70	100	225	–	–	–
18.5	5	78.2	20G...B070	86	117.3	20G...B080	117.3	140.8	25.5	70.8	90	150	300	–	–	–
	4	79	20G...B071	86.9	118.5				25.8	71.6	90	150	300	–	–	–
22	5	92	20G...B080	101.2	138	20G...B104 (3)	138	180	30	83.4	110	175	350	–	–	–
30	6	120	20G...B104	132	180	20G...B130	180	225	40.1	111.3	150	250	350	–	–	–
37	6	150	20G...B130	165	225	20G...B154	225	270	50.1	139.1	175	300	450	–	–	–
45	6	177	20G...B154	194.7	265.5	20G...B192	265.5	331.5	59.1	164.1	225	350	500	–	–	–
55	6	221	20G...B192	243.1	331.5	20G...B260	331.5	390	73.8	204.9	250	450	600	–	–	–
66	6	260	20G...B260	286	390	20G...B312 (3)	394.9	538.5	86.9	241.1	300	500	700	–	–	–
90	7	359	20G...B312	394.9	538.5	20G...B360	538.5	646.2	230.6	332.9	450	700	1000	–	–	–
						20G...B477	538.5	646.2	230.6	332.9	450	700	1000	–	–	–
110	7	414	20G...B360	455.4	621				266	383.9	500	800	1200	–	–	–
132	7	477	20G...B477	524.7	715.5				306.4	442.3	600	800	1200	–	–	–

(1) Applied rating refers to the motor that is connected to the drive. For example, a B022 drive can be used in Normal Duty mode on a 5.5 kW motor, or in Heavy Duty mode on a 4 kW motor. A B028 drive can be used in Heavy Duty mode on a 5.5 kW motor with the same ratings as a B022 drive. The drive can be programmed for either mode. For any given drive catalog number, Normal Duty mode provides higher continuous current but smaller overload current when compared to Heavy Duty mode. See parameter 0:35 [Duty Rating Cfg].
(2) Only enclosure codes F, N, and R. See the PowerFlex 755TS Products with TotalFORCE Control Installation Instructions, publication 750-IN119 for frame sizes of other enclosure types.
(3) This drive is the next larger frame size.
(4) For UL compliance - fast-acting class J (Bussmann DFJ) or fast-acting class T (Bussmann JJS) fuses only. Equivalent fuses of class J, T may be used if they have lower I_{peak} and I^2t ratings than the Bussmann JJS fuse. For CE compliance - type gR fuses (Bussmann 170M - size 00 to 3, IEC 60269 or DIN 43620, or FWP-_G10F, _G14F, _G22F) only. Minimum protection device size is the lowest rated device that supplies maximum protection without nuisance tripping. Max. source SCCR = 100 kA.
(5) For UL compliance - fast-acting class J (Bussmann DFJ) or fast-acting class T (Bussmann JJS) fuses only. Equivalent fuses of class J, T may be used if they have lower I_{peak} and I^2t ratings than the Bussmann JJS fuse. For CE compliance - type gR fuses (Bussmann 170M - size 00 to 3, IEC 60269 or DIN 43620, or FWP-_G10F, _G14F, _G22F) only. Maximum protection device size is the highest rated device that supplies drive protection. Max. source SCCR = 100 kA.
(6) Circuit breaker - inverse time breaker - must be used with a fuse specified in the table. For US NEC, minimum circuit breaker size is 125% of motor FLA. Ratings that are shown are maximum values.
(7) Bulletin 140M/140MT with adjustable current range must have the current trip set to the minimum range so that the device does not trip.
(8) Bulletin 140M/140MT is UL Listed for 208V Wye or Delta, and 240V Wye or Delta systems.
(9) Bulletin 140M/140MT must be Frame C (140M-C2E-xxx or 140MT-C3E-xxx) or Frame D (140M-D8E-xxx or 140MT-D9E-xxx). Max. source SCCR = 65 kA.
(10) Bulletin 140M/140MT must be Frame D (140M-D8E-xxx or 140MT-D9E-xxx) or Frame F (140M-F8E-xxx). Max. source SCCR = 65 kA.
(11) When using the Bulletin 140M/140MT, the drive must be installed in a ventilated or non-ventilated enclosure with the minimum volume that is specified in this column. Application-specific thermal considerations can require a larger enclosure.

240V AC Input Protection Devices—Drive Frames 1...7

Applied Rating (1)	Frame (2)	Cont. Output Amps	Sized For Normal Duty			Sized For Heavy Duty			Input Quantities		AC Input Protection Devices					
			Cat. No.	Output Overload Amps		Cat. No.	Output Overload Amps		Cont. AC Input		Fuse		Circuit Breaker (6)		140M/140MT Type E Combination Motor Controller with Adjustable Current Range (7) (8)	
Hp				1 Min	3 s		1 Min	3 s	kVA	Amps	Min [A](4)	Max [A](5)	Max [A]	Min. Encl. Vol. [in.^{3}]	Cat. No.	Min Enclosure Volume [in.^{3}] (11)
240V AC Input																
0.5	1	2.2	20G...B2P2	2.4	3.3	20G...B2P2	4.6	6.3	0.8	2.0	3	4	15	–	M-xxx-B25 (9)	3441
						20G...B4P2	7.5	10.2	0.8	2.0	3	10	15	–	M-xxx-B25 (9)	3441
1.0	1	4.2	20G...B4P2	4.6	6.3				1.6	3.8	5	10	20	–	M-xxx-B63 (9)	3441
						20G...B6P8	10.6	14.4	1.6	3.8	5	15	20	–	M-xxx-B63 (9)	3441
2.0	1	6.8	20G...B6P8	7.5	10.2				2.5	6.1	8	10	30	–	M-xxx-C10 (9)	3441
						20G...B9P6	16.8	23	2.5	6.1	8	25	30	–	M-xxx-C10 (9)	3441
3.0	1	9.6	20G...B9P6	10.6	14.4				3.6	8.7	12	20	40	–	M-xxx-C16 (10)	3441
						20G...B015	16.9	23	3.6	8.7	12	25	40	–	M-xxx-C16 (10)	3441
5.0	1	15	20G...B015	16.8	23	20G...B022 (3)	24.2	33	5.6	13.5	20	30	60	–	M-xxx-C16 (10)	3441
0.5	2	2.2	20G...B2P2	3.3	4.0	20G...B2P2	3.3	4.0	0.8	2.0	3	4	15	–	M-xxx-B25 (9)	3441
1.0	2	4.2	20G...B4P2	6.3	7.6	20G...B4P2	6.3	7.6	1.6	3.8	5	10	20	–	M-xxx-B63 (9)	3441
2.0	2	6.8	20G...B6P8	10.2	12.2	20G...B6P8	10.2	12.2	2.5	6.1	8	10	30	–	M-xxx-C10 (9)	3441
3.0	2	9.6	20G...B9P6	14.4	17.3	20G...B9P6	14.4	17.3	3.6	8.7	12	20	40	–	M-xxx-C16 (10)	3441
						20G...B015	16.8	23	3.6	8.7	12	25	40	–	M-xxx-C16 (10)	3441
5.0	2	15	20G...B015	16.8	23	20G...B022	24.2	33	5.6	13.5	20	30	70	–	M-xxx-C20 (10)	3441
7.5	2	22	20G...B022	24.2	33				8.3	19.9	25	45	80	–	M-F8E-C25	3441
	3					20G...B028 (3)	33	42	8.3	19.9	25	45	80	–	M-F8E-C25	5098
10	3	28	20G...B028	30.8	42	20G...B042	46.2	63	10.5	25.3	35	60	125	–	M-F8E-C32	5098
15	3	42	20G...B042	46.2	63	20G...B055	63	81	15.8	37.9	50	80	150	–	M-F8E-C45	5098
	4					20G...B054	63	81	15.8	37.9	50	80	150	–	M-F8E-C45	9086
20	4	54	20G...B054	59.4	81	20G...B070 (3)	81	105	20.3	48.8	70	100	225	–	–	–
						20G...B071	81	105	20.3	48.8	70	100	225	–	–	–
	3	55	20G...B055	60.5	82.5				20.7	49.7	70	100	225	–	–	–
25	5	70	20G...B070	77	105	20G...B080	105	126	26.3	63.2	80	125	300	–	–	–
	4	71	20G...B071	78.1	106.5				26.6	64.1	80	125	300	–	–	–
30	5	80	20G...B080	88	120	20G...B104 (3)	120	156	30.0	72.2	90	150	350	–	–	–
40	6	104	20G...B104	114.4	156	20G...B130	156	195	39.9	96.1	125	200	350	–	–	–
50	6	130	20G...B130	143	195	20G...B154	195	234	50.0	120.2	150	250	450	–	–	–
60	6	154	20G...B154	169.4	231	20G...B192	231	288	59.2	142.3	175	300	500	–	–	–
75	6	192	20G...B192	211.2	288	20G...B260	288	390	73.8	177.5	225	400	600	–	–	–
100	6	260	20G...B260	286	390	20G...B312 (3)	390	468	99.9	240.3	300	500	700	–	–	–
125	7	312	20G...B312	343.2	468	20G...B360	468	561.6	119.9	288.4	400	600	1000	–	–	–
	7					20G...B477	468	561.6	138.4	332.9	450	600	1000	–	–	–
150	7	360	20G...B360	396	540				138.3	332.7	450	600	1200	–	–	–
200	7	477	20G...B477	524.7	715.5				183.3	440.9	600	800	1200	–	–	–

(1) Applied rating refers to the motor that is connected to the drive. For example, a B022 drive can be used in Normal Duty mode on a 7.5 Hp motor, or in Heavy Duty mode on a 5 Hp motor. A B028 drive can be used in Heavy Duty mode on a 7.5 Hp motor with the same ratings as a B022 drive. The drive can be programmed for either mode. For any given drive catalog number, Normal Duty mode provides higher continuous current but smaller overload current when compared to Heavy Duty mode. See parameter 0:35 [Duty Rating Cfg].
(2) Only enclosure codes F, N, and R. See the PowerFlex 755TS Products with TotalFORCE Control Installation Instructions, publication 750-IN119 for frame sizes of other enclosure types.
(3) This drive is the next larger frame size.
(4) For UL compliance - fast-acting class J (Bussmann DFJ) or fast-acting class T (Bussmann JJS) fuses only. Equivalent fuses of class J, T may be used if they have lower I_{peak} and I^2t ratings than the Bussmann JJS fuse. For CE compliance - type gR fuses (Bussmann 170M - size 00 to 3, IEC 60269 or DIN 43620, or FWP-_G10F, _G14F, _G22F) only. Minimum protection device size is the lowest rated device that supplies maximum protection without nuisance tripping. Max. source SCCR = 100 kA.
(5) For UL compliance - fast-acting class J (Bussmann DFJ) or fast-acting class T (Bussmann JJS) fuses only. Equivalent fuses of class J, T may be used if they have lower I_{peak} and I^2t ratings than the Bussmann JJS fuse. For CE compliance - type gR fuses (Bussmann 170M - size 00 to 3, IEC 60269 or DIN 43620, or FWP-_G10F, _G14F, _G22F) only. Maximum protection device size is the highest rated device that supplies drive protection. Max. source SCCR = 100 kA.
(6) Circuit breaker - inverse time breaker - must be used with a fuse specified in the table. For US NEC, minimum circuit breaker size is 125% of motor FLA. Ratings that are shown are maximum values.
(7) Bulletin 140M/140MT with adjustable current range must have the current trip set to the minimum range so that the device does not trip.
(8) Bulletin 140M/140MT is UL Listed for 208V Wye or Delta, and 240V Wye or Delta systems.
(9) Bulletin 140M/140MT must be Frame C (140M-C2E-xxx or 140MT-C3E-xxx) or Frame D (140M-D8E-xxx or 140MT-D9E-xxx). Max. source SCCR = 65 kA.
(10) Bulletin 140M/140MT must be Frame D (140M-D8E-xxx or 140MT-D9E-xxx) or Frame F (140M-F8E-xxx). Max. source SCCR = 65 kA.
(11) When using the Bulletin 140M/140MT, the drive must be installed in a ventilated or non-ventilated enclosure with the minimum volume that is specified in this column. Application-specific thermal considerations can require a larger enclosure.

400V AC and 540V DC Input Protection Devices—Drive Frames 1...7

Applied Rating (1)	Frame (2)	Cont. Output Amps	Sized For Normal Duty			Sized For Heavy Duty			Input Quantities		AC Input Protection Devices						Input Quantities	DC Input Protection (12)	
			Cat. No.	Output Overload Amps		Cat. No.	Output Overload Amps		Cont. AC Input		Fuse		Circuit Breaker (6)		140M/140MT Type E Combination Motor Controller with Adjustable Current Range (7) (8)		Cont. DC Input	Fuse Cat. No. 20-750-...	Fuse Holder Cat. No. 20-750-...
kW				1 Min	3 s		1 Min	3 s	kVA	Amps	Min [A](4)	Max [A](5)	Max [A]	Min. Encl. Vol. [in.3]	Cat. No.	Min Enclosure Volume [in.3] (11)	Amps		
400V AC Input																	**540V DC Input**		
0.37	1	1.3				20G...C2P1	2.3	3.2	0.8	1.2	2	4	15	–	M-xxx-B25 (9)	3242	1.4	DCFUSE1-10A	DCFH-51
0.75	1	2.1	20G...C2P1	2.3	3.2	20G...C3P5	3.9	5.3	1.3	1.9	3	6	15	–	M-xxx-B25 (9)	3242	2.2	DCFUSE1-10A	DCFH-51
1.5	1	3.5	20G...C3P5	3.9	5.3	20G...C5P0	5.5	7.5	2.1	3.1	4	10	15	–	M-xxx-B40 (9)	3242	3.7	DCFUSE1-10A	DCFH-51
2.2	1	5.0	20G...C5P0	5.5	7.5				3.1	4.5	6	10	20	–	M-xxx-B63 (9)	3242	5.3	DCFUSE1-10A	DCFH-51
						20G...C8P7	9.6	13.1	3.1	4.5	6	15	20	–	M-xxx-B63 (9)	3242	5.3	DCFUSE1-10A	DCFH-51
4.0	1	8.7	20G...C8P7	9.6	13.1	20G...C011	13.1	17.3	5.4	7.8	10	20	30	–	M-xxx-C10 (9)	3242	9.2	DCFUSE1-16A	DCFH-51
5.5	1	11.5	20G...C011	12.7	17.3	20G...C015	17.3	23.1	7.1	10.3	15	25	45	–	M-xxx-C16 (10)	3242	12.2	DCFUSE1-20A	DCFH-51
7.5	1	15.4	20G...C015	16.9	23.1				9.6	13.8	20	30	60	–	M-xxx-C20 (10)	3242	16.3	DCFUSE1-25A	DCFH-51
0.75	2	2.1	20G...C2P1	3.1	3.7	20G...C2P1	3.1	3.7	1.3	1.9	3	4	15	–	M-xxx-B25 (9)	3242	2.2	DCFUSE1-10A	DCFH-51
1.5	2	3.5	20G...C3P5	5.2	6.3	20G...C3P5	5.2	6.3	2.1	3.1	4	7	15	–	M-xxx-B40 (9)	3242	3.7	DCFUSE1-10A	DCFH-51
2.2	2	5.0	20G...C5P0	7.5	9.0	20G...C5P0	7.5	9.0	3.1	4.5	6	10	20	–	M-xxx-B63 (9)	3242	5.3	DCFUSE1-10A	DCFH-51
4.0	2	8.7	20G...C8P7	13.0	15.6	20G...C8P7	13.0	15.6	5.4	7.8	10	15	30	–	M-xxx-C10 (10)	3242	9.2	DCFUSE1-16A	DCFH-51
5.5	2	11.5	20G...C011	17.2	20.7	20G...C011	17.2	20.7	7.1	10.3	15	20	45	–	M-xxx-C16 (10)	3242	12.2	DCFUSE1-20A	DCFH-51
						20G...C015	17.3	23.1	7.1	10.3	15	20	45	–	M-xxx-C16 (10)	3242	12.2	DCFUSE1-20A	DCFH-51
7.5	2	15.4	20G...C015	16.9	23.1	20G...C022	24.3	33.0	9.6	13.8	20	30	60	–	M-xxx-C20 (10)	3242	16.3	DCFUSE1-25A	DCFH-51
11	2	22	20G...C022	24.2	33.0				13.6	19.7	25	45	80	–	M-F8E-C25	3242	23.2	DCFUSE1-40A	DCFH-NH1
	3					20G...C030	33.0	45.0	13.6	19.7	25	45	80	–	M-F8E-C25	4052	23.2	DCFUSE1-40A	DCFH-NH1
15	3	30	20G...C030	33.0	45.0	20G...C037	45.0	55.5	18.6	26.9	35	60	100	–	M-F8E-C32	4052	31.7	DCFUSE3-63A	DCFH-NH1
18.5	3	37	20G...C037	40.7	55.5	20G...C043	55.5	66.6	22.9	33.1	45	70	110	–	M-F8E-C45	4052	39.1	DCFUSE3-63A	DCFH-NH1
22	3	43	20G...C043	47.3	64.5	20G...C060 (3)	66.0	90.0	26.7	38.5	50	90	120	–	–	–	45.4	DCFUSE3-80A	DCFH-NH1
						20G...C061	66.0	90.0	26.7	38.5	50	90	120	–	–	–	45.4	DCFUSE3-125A	DCFH-NH1
30	4	60	20G...C060	66.0	90.0	20G...C072	90.0	108.0	37.2	53.7	70	100	180	–	–	–	63.4	DCFUSE3-125A	DCFH-NH1
						20G...C073	90.0	108.0	37.2	53.7	70	100	180	–	–	–	63.4	DCFUSE3-125A	DCFH-NH1
	3	61	20G...C061	67.1	91.5				37.8	54.6	70	100	180	–	–	–	64.5	DCFUSE3-125A	DCFH-NH1
37	4	72	20G...C072	79.2	108.0	20G...C086	108.0	129.6	44.6	64.4	80	125	200	–	–	–	76.1	DCFUSE3-125A	DCFH-NH1
	5					20G...C085	108.0	129.6	44.6	64.4	80	125	200	–	–	–	76.1	DCFUSE3S-160A	DCFH-NH1
	4	73	20G...C073	80.3	109.5				45.2	65.3	80	125	200	–	–	–	77.1	DCFUSE3-125A	DCFH-NH1
45	5	85	20G...C085	93.5	127.5	20G...C104	127.5	156.0	52.7	76.1	100	150	250	–	–	–	89.8	DCFUSE3S-160A	DCFH-NH1
	4	86	20G...C086	94.6	129.0				53.3	77.0	100	150	250	–	–	–	90.9	DCFUSE3-160A	DCFH-NH1
55	5	104	20G...C104	114.4	156.0	20G...C140 (3)	156.0	210.0	64.5	93.1	125	200	300	–	–	–	109.9	DCFUSE3S-200A	DCFH-NH1
75	6	140	20G...C140	154.0	210.0	20G...C170	210.0	255.0	88.9	128.3	175	300	400	–	–	–	151.4	DCFUSE3S-315A	DCFH-NH1
90	6	170	20G...C170	187.0	255.0	20G...C205	255.0	307.5	107.9	155.8	200	300	500	–	–	–	183.9	DCFUSE3S-315A	DCFH-NH1
110	6	205	20G...C205	225.0	307.5	20G...C260	307.5	390.0	130.1	187.8	250	400	600	–	–	–	221.7	DCFUSE3S-400A	DCFH-NH1

400V AC and 540V DC Input Protection Devices—Drive Frames 1...7 (Continued)

Applied Rating (1)	Frame (2)	Cont. Output Amps	Sized For Normal Duty			Sized For Heavy Duty			Input Quantities		AC Input Protection Devices						Input Quantities	DC Input Protection (12)	
			Cat. No.	Output Overload Amps		Cat. No.	Output Overload Amps		Cont. AC Input		Fuse		Circuit Breaker (6)		140M/140MT Type E Combination Motor Controller with Adjustable Current Range (7) (8)		Cont. DC Input	Fuse Cat. No. 20-750-...	Fuse Holder Cat. No. 20-750-...
kW				1 Min	3 s		1 Min	3 s	kVA	Amps	Min [A](4)	Max [A](5)	Max [A]	Min. Encl. Vol. [in.3]	Cat. No.	Min Enclosure Volume [in.3] (11)	Amps		
400V AC Input																	**540V DC Input**		
132	6	260	20G...C260	286.0	390.0				165.0	238.2	300	500	700	–	–	–	281.2	DCFUSE5S-500A	DCFH-NH2
	7					20G...C302	390.0	468.0	165.0	238.2	300	500	700	–	–	–	281.2	DCFUSE6S-500A	DCFH-NH3
160	7	302	20G...C302	332.2	453.0	20G...C367	453.0	550.5	191.7	276.7	350	600	900	–	–	–	326.7	DCFUSE6S-550A	DCFH-NH3
200	7	367	20G...C367	403.5	550.5	20G...C456	550.5	684.0	232.9	336.2	450	700	1100	–	–	–	397.0	DCFUSE6S-700A	DCFH-NH3
						20G...C477	550.5	684.0	232.9	336.2	450	700	1100	–	–	–	397.0	DCFUSE6S-700A	DCFH-NH3
250	7	456	20G...C456	501.6	684.0				289.5	417.8	600	800	1300	–	–	–	493.2	DCFUSE6S-900A	DCFH-NH3
270	7	477	20G...C477	524.7	715.5				302.8	437.0	600	800	1300	–	–	–	516.0	DCFUSE6S-900A	DCFH-NH3

(1) Applied rating refers to the motor that is connected to the drive. For example, a C022 drive can be used in Normal Duty mode on an 11 kW motor, or in Heavy Duty mode on a 7.5 kW motor. A C015 drive can be used in Heavy Duty mode on a 5.5 kW motor with the same ratings as a C011 drive. The drive can be programmed for either mode. For any given drive catalog number, Normal Duty mode provides higher continuous current but smaller overload current when compared to Heavy Duty mode. See parameter 0:35 [Duty Rating Cfg].
(2) Only enclosure codes F, N, and R. See the PowerFlex 755TS Products with TotalFORCE Control Installation Instructions, publication 750-IN119 for frame sizes of other enclosure types.
(3) This drive is the next larger frame size.
(4) For UL compliance - fast-acting class J (Bussmann DFJ) or fast-acting class T (Bussmann JJS) fuses only. Equivalent fuses of class J, T may be used if they have lower I_{peak} and I^2t ratings than the Bussmann JJS fuse. For CE compliance - type gR fuses (Bussmann 170M - size 00 to 3, IEC 60269 or DIN 43620, or FWP-_G10F, _G14F, _G22F) only. Minimum protection device size is the lowest rated device that supplies maximum protection without nuisance tripping. Max. source SCCR = 100 kA.
(5) For UL compliance - fast-acting class J (Bussmann DFJ) or fast-acting class T (Bussmann JJS) fuses only. Equivalent fuses of class J, T may be used if they have lower I_{peak} and I^2t ratings than the Bussmann JJS fuse. For CE compliance - type gR fuses (Bussmann 170M - size 00 to 3, IEC 60269 or DIN 43620, or FWP-_G10F, _G14F, _G22F) only. Maximum protection device size is the highest rated device that supplies drive protection. Max. source SCCR = 100 kA.
(6) Circuit breaker - inverse time breaker - must be used with a fuse specified in the table. For US NEC, minimum circuit breaker size is 125% of motor FLA. Ratings that are shown are maximum values.
(7) Bulletin 140M/140MT with adjustable current range must have the current trip set to the minimum range so that the device does not trip.
(8) Bulletin 140M/140MT is UL Listed for 480Y/277V. Not UL Listed for use on 400V or 480V Delta/Delta, corner ground, or high-resistance ground systems.
(9) Bulletin 140M/140MT must be Frame C (140M-C2E-xxx or 140MT-C3E-xxx) or Frame D (140M-D8E-xxx or 140MT-D9E-xxx). Max. source SCCR = 65 kA.
(10) Bulletin 140M/140MT must be Frame D (140M-D8E-xxx or 140MT-D9E-xxx) or Frame F (140M-F8E-xxx). Max. source SCCR = 65 kA.
(11) When using the Bulletin 140M/140MT, the drive must be installed in a ventilated or non-ventilated enclosure with the minimum volume that is specified in this column. Application-specific thermal considerations can require a larger enclosure.
(12) DC fuses specified are UL recognized and CE compliant.

480V AC and 650V DC Input Protection Devices—Drive Frames 1...7

Applied Rating (1)	Frame (2)	Cont. Output Amps	Sized For Normal Duty			Sized For Heavy Duty			Input Quantities		AC Input Protection Devices						Input Quantities	DC Input Protection (12)	
			Cat. No.	Output Overload Amps		Cat. No.	Output Overload Amps		Cont. AC Input		Fuse		Circuit Breaker (6)		140M/140MT Type E Combination Motor Controller with Adjustable Current Range (7) (8)		Cont. DC Input	Fuse Cat. No. 20-750-...	Fuse Holder Cat. No. 20-750-...
Hp				1 Min	3 s		1 Min	3 s	kVA	Amps	Min [A] (4)	Max [A] (5)	Max [A]	Min. Encl. Vol. [in.^{3}]	Cat. No.	Min Enclosure Volume [in.^{3}] (11)	Amps		
480V AC Input																	**650V DC Input**		
0.5	1	1.1				20G...D2P1	2.3	3.2	0.8	1.0	2	2	15	–	M-xxx-B25 (9)	3242	1.2	DCFUSE1-10A	DCFH-51
1.0	1	2.1	20G...D2P1	2.3	3.2	20G...D3P4	3.7	5.1	1.6	1.9	3	4	15	–	M-xxx-B25 (9)	3242	2.2	DCFUSE1-10A	DCFH-51
2.0	1	3.4	20G...D3P4	3.7	5.1	20G...D5P0	5.5	7.5	2.6	3.1	4	7	15	–	M-xxx-B40 (9)	3242	3.6	DCFUSE1-10A	DCFH-51
3.0	1	5.0	20G...D5P0	5.5	7.5	20G...D8P0	8.8	12.0	3.7	4.5	6	15	20	–	M-xxx-B63 (9)	3242	5.3	DCFUSE1-10A	DCFH-51
5.0	1	8.0	20G...D8P0	8.8	12.0	20G...D011	12.1	16.5	6.0	7.2	9	15	30	–	M-xxx-C10 (9)	3242	8.5	DCFUSE1-16A	DCFH-51
7.5	1	11	20G...D011	12.1	16.5	20G...D014	16.5	21.0	8.2	9.9	12	20	40	–	M-xxx-C16 (10)	3242	11.7	DCFUSE1-20A	DCFH-51
10	1	14	20G...D014	15.4	21.0				10.5	12.6	15	30	50	–	M-xxx-C16 (10)	3242	14.9	DCFUSE1-25A	DCFH-51
1.0	2	2.1	20G...D2P1	3.1	3.7	20G...D2P1	3.1	3.7	1.6	1.9	3	4	15	–	M-xxx-B25 (9)	3242	2.2	DCFUSE1-10A	DCFH-51
2.0	2	3.4	20G...D3P4	5.1	6.1	20G...D3P4	5.1	6.1	2.6	3.1	4	7	15	–	M-xxx-B40 (9)	3242	3.6	DCFUSE1-10A	DCFH-51
3.0	2	5.0	20G...D5P0	7.5	9.0	20G...D5P0	7.5	9.0	3.7	4.5	6	10	20	–	M-xxx-B63 (9)	3242	5.3	DCFUSE1-10A	DCFH-51
5.0	2	8.0	20G...D8P0	12.0	14.4	20G...D8P0	12.0	14.4	6.0	7.2	9	15	30	–	M-xxx-C10 (10)	3242	8.5	DCFUSE1-16A	DCFH-51
7.5	2	11	20G...D011	16.5	19.8	20G...D011	16.5	19.8	8.2	9.9	12	20	40	–	M-xxx-C16 (10)	3242	11.7	DCFUSE1-20A	DCFH-51
						20G...D014	16.5	21.0	8.2	9.9	12	20	40	–	M-xxx-C16 (10)	3242	11.7	DCFUSE1-20A	DCFH-51
10	2	14	20G...D014	15.4	21.0	20G...D022	21.0	33.0	10.5	12.6	15	30	50	–	M-xxx-C16 (10)	3242	14.9	DCFUSE1-25A	DCFH-51
15	2	22	20G...D022	24.2	33.0				16.5	19.9	25	45	80	–	M-F8E-C25	3242	23.5	DCFUSE3-40A	DCFH-NH1
	3					20G...D027	33.0	40.5	16.5	19.9	25	45	80	–	M-F8E-C25	4052	23.5	DCFUSE3-40A	DCFH-NH1
20	3	27	20G...D027	29.7	40.5	20G...D034	40.5	51.0	20.3	24.4	30	50	100	–	M-F8E-C32	4052	28.8	DCFUSE3-50A	DCFH-NH1
25	3	34	20G...D034	37.4	51.0	20G...D040	51.0	61.2	25.5	30.7	40	60	100	–	M-F8E-C45	4052	36.2	DCFUSE3-63A	DCFH-NH1
30	3	40	20G...D040	44.0	60.0	20G...D053	60.0	78.0	30.0	36.1	45	80	120	–	M-F8E-C45	4052	42.6	DCFUSE3-70A	DCFH-NH1
	4					20G...D052	60.0	78.0	30.0	36.1	45	80	120	–	M-F8E-C45	4863	42.6	DCFUSE3-70A	DCFH-NH1
40	4	52	20G...D052	57.2	78.0	20G...D065	78.0	97.5	39.1	47.0	60	100	150	–	–	–	55.4	DCFUSE3-100A	DCFH-NH1
						20G...D066	78.0	97.5	39.1	47.0	60	100	150	–	–	–	55.4	DCFUSE3-100A	DCFH-NH1
	3	53	20G...D053	58.3	79.5				39.8	47.9	60	100	150	–	–	–	56.5	DCFUSE3-100A	DCFH-NH1
50	4	65	20G...D065	71.5	97.5	20G...D078	97.5	117.0	48.8	58.7	80	125	175	–	–	–	69.3	DCFUSE3-125A	DCFH-NH1
	5					20G...D077	97.5	117.0	48.8	58.7	80	125	175	–	–	–	69.3	DCFUSE3S-160A	DCFH-NH1
	4	66	20G...D066	72.5	99.0				49.6	59.6	80	125	175	–	–	–	70.4	DCFUSE3-125A	DCFH-NH1
60	5	77	20G...D077	84.7	115.5	20G...D096	115.5	144.0	57.8	69.5	90	150	225	–	–	–	82.1	DCFUSE3S-160A	DCFH-NH1
	4	78	20G...D078	85.8	117.0				58.5	70.4	90	150	225	–	–	–	83.2	DCFUSE3-125A	DCFH-NH1
75	5	96	20G...D096	105.6	144.0	20G...D125 (3)	144.0	187.5	72.1	86.7	110	200	275	–	–	–	102.3	DCFUSE3S-200A	DCFH-NH1
100	6	125	20G...D125	137.5	187.5	20G...D156	187.5	234.0	96.0	115.5	150	250	375	–	–	–	136.4	DCFUSE3S-315A	DCFH-NH1
125	6	156	20G...D156	171.6	234.0	20G...D186	234.0	280.8	119.9	144.2	200	300	450	–	–	–	170.2	DCFUSE3S-315A	DCFH-NH1
150	6	186	20G...D186	204.6	279.0	20G...D248	279.0	372.0	142.9	171.9	225	400	550	–	–	–	203.0	DCFUSE3S-400A	DCFH-NH1
200	6	248	20G...D248	272.8	372.0				190.6	229.2	300	450	700	–	–	–	270.6	DCFUSE5S-500A	DCFH-NH2
	7					20G...D302	372.0	453.0	190.6	229.2	300	450	700	–	–	–	270.6	DCFUSE6S-500A	DCFH-NH3

480V AC and 650V DC Input Protection Devices—Drive Frames 1...7 (Continued)

Applied Rating (1)	Frame (2)	Cont. Output Amps	Sized For Normal Duty			Sized For Heavy Duty			Input Quantities		AC Input Protection Devices						Input Quantities	DC Input Protection (12)	
			Cat. No.	Output Overload Amps		Cat. No.	Output Overload Amps		Cont. AC Input		Fuse		Circuit Breaker (6)		140M/140MT Type E Combination Motor Controller with Adjustable Current Range (7) (8)		Cont. DC Input	Fuse Cat. No. 20-750-...	Fuse Holder Cat. No. 20-750-...
Hp				1 Min	3 s		1 Min	3 s	kVA	Amps	Min [A] (4)	Max [A] (5)	Max [A]	Min. Encl. Vol. [in.^{3}]	Cat. No.	Min Enclosure Volume [in.^{3}] (11)	Amps		
480V AC Input																	**650V DC Input**		
250	7	302	20G...D302	332.2	453.0	20G...D361	453.0	543.6	232.0	279.1	350	600	900	–	–	–	329.5	DCFUSE6S-550A	DCFH-NH3
300	7	361	20G...D361	397.1	541.5	20G...D415	541.5	649.8	277.3	333.6	450	700	1000	–	–	–	393.9	DCFUSE6S-700A	DCFH-NH3
						20G...D477	541.5	649.8	277.3	333.6	450	700	1000	–	–	–	393.9	DCFUSE6S-700A	DCFH-NH3
350	7	415	20G...D415	456.5	622.5				318.9	383.6	500	800	1200	–	–	–	452.8	DCFUSE6S-900A	DCFH-NH3
400	7	477	20G...D477	524.7	715.5				366.6	440.9	600	800	1400	–	–	–	520.5	DCFUSE6S-900A	DCFH-NH3

(1) Applied rating refers to the motor that is connected to the drive. For example, a D022 drive can be used in Normal Duty mode on a 15 Hp motor, or in Heavy Duty mode on a 10 Hp motor. A D014 drive can be used in Heavy Duty mode on a 7.5 Hp motor with the same ratings as a D011 drive. The drive can be programmed for either mode. For any given catalog number, Normal Duty mode provides higher continuous current but smaller overload current when compared to Heavy Duty mode. See parameter 0:35 [Duty Rating Cfg].
(2) Only enclosure codes F, N, and R. See the PowerFlex 755TS Products with TotalFORCE Control Installation Instructions, publication 750-IN119 for frame sizes of other enclosure types.
(3) This drive is the next larger frame size.'
(4) For UL compliance - fast-acting class J (Bussmann DFJ) or fast-acting class T (Bussmann JJS) fuses only. Equivalent fuses of class J, T may be used if they have lower I_{peak} and I^2t ratings than the Bussmann JJS fuse. For CE compliance - type gR fuses (Bussmann 170M - size 00 to 3, IEC 60269 or DIN 43620, or FWP-_G10F, _G14F, _G22F) only. Minimum protection device size is the lowest rated device that supplies maximum protection without nuisance tripping. Max. source SCCR = 100 kA.
(5) For UL compliance - fast-acting class J (Bussmann DFJ) or fast-acting class T (Bussmann JJS) fuses only. Equivalent fuses of class J, T may be used if they have lower I_{peak} and I^2t ratings than the Bussmann JJS fuse. For CE compliance - type gR fuses (Bussmann 170M - size 00 to 3, IEC 60269 or DIN 43620, or FWP-_G10F, _G14F, _G22F) only. Maximum protection device size is the highest rated device that supplies drive protection. Max. source SCCR = 100 kA.
(6) Circuit breaker - inverse time breaker - must be used with a fuse specified in the table. For US NEC, minimum circuit breaker size is 125% of motor FLA. Ratings that are shown are maximum values.
(7) Bulletin 140M/140MT with adjustable current range must have the current trip set to the minimum range so that the device does not trip.
(8) Bulletin 140M/140MT is UL Listed for 480Y/277V. Not UL Listed for use on 400V or 480V Delta/Delta, corner ground, or high-resistance ground systems.
(9) Bulletin 140M/140MT must be Frame C (140M-C2E-xxx or 140MT-C3E-xxx) or Frame D (140M-D8E-xxx or 140MT-D9E-xxx). Max. source SCCR = 65 kA.
(10) Bulletin 140M/140MT must be Frame D (140M-D8E-xxx or 140MT-D9E-xxx) or Frame F (140M-F8E-xxx). Max. source SCCR = 65 kA.
(11) When using the Bulletin 140M/140MT, the drive must be installed in a ventilated or non-ventilated enclosure with the minimum volume that is specified in this column. Application-specific thermal considerations can require a larger enclosure.
(12) DC fuses specified are UL recognized and CE compliant.

600V AC and 810V DC Input Protection Devices—Drive Frames 1...7

Applied Rating [1]	Frame [2]	Cont. Output Amps	Sized For Normal Duty			Sized For Heavy Duty			Input Quantities		AC Input Protection Devices						Input Quantities	DC Input Protection [11]	
			Cat. No.	Output Overload Amps		Cat. No.	Output Overload Amps		Cont. AC Input		Fuse		Circuit Breaker [5]		140M/140MT Type E Combination Motor Controller with Adjustable Current Range [6] [7]		Cont. DC Input	Fuse Cat. No. 20-750-...	Fuse Holder Cat. No. 20-750-...
Hp				1 Min	3 s		1 Min	3 s	kVA	Amps	Min [A][3]	Max [A][4]	Max [A]	Min. Encl. Vol. [in.^{3}]	Cat. No.	Min Enclosure Volume [in.^{3}] [10]	Amps		
600V AC Input																	**810V DC Input**		
0.5	3	0.9				20G...E1P7	1.4	2.6	0.8	0.8	1	2	3	–	M-xxx-B16 [8]	5098	1	DCFUSE1-10A	DCFH-51
1.0	3	1.7	20G...E1P7	1.9	2.6	20G...E2P7	2.6	4.1	1.6	1.5	2	3	5	–	M-xxx-B25 [8]	5098	1.8	DCFUSE1-10A	DCFH-51
2.0	3	2.7	20G...E2P7	3.0	4.1	20G...E3P9	4.1	5.9	2.5	2.4	3	5	8	–	M-xxx-B40 [8]	5098	2.9	DCFUSE1-10A	DCFH-51
3.0	3	3.9	20G...E3P9	4.3	5.9	20G...E6P1	5.9	9.2	3.7	3.5	5	10	11	–	M-D8E-B63	5098	4.2	DCFUSE1-10A	DCFH-51
5.0	3	6.1	20G...E6P1	6.7	9.2	20G...E9P0	9.2	13.5	5.7	5.5	7	15	20	–	M-D8E-B63	5098	6.5	DCFUSE1-16A	DCFH-51
7.5	3	9.0	20G...E9P0	9.9	13.5	20G...E011	13.5	16.5	8.4	8.1	12	20	30	–	M-xxx-C10 [9]	5098	9.6	DCFUSE1-16A	DCFH-51
10	3	11	20G...E011	12.1	16.5	20G...E017	16.5	25.5	10.3	9.9	15	25	40	–	M-xxx-C16 [9]	5098	11.7	DCFUSE1-20A	DCFH-51
15	3	17	20G...E017	18.7	25.5	20G...E022	25.5	33.0	16.0	15.4	20	30	50	–	M-F8E-C20	5098	18.1	DCFUSE4E-32A	DCFH-NH1X
20	3	22	20G...E022	24.2	33.0				20.7	19.9	25	45	70	–	M-F8E-C25	5098	23.5	DCFUSE4E-40A	DCFH-NH1X
	4	22				20G...E027	33.0	40.5	20.7	19.9	25	45	70	–	M-F8E-C25	9086	23.5	DCFUSE4E-40A	DCFH-NH1X
25	4	27	20G...E027	29.7	40.5	20G...E032	40.5	48.6	25.4	24.4	35	50	80	–	M-F8E-C32	9086	28.8	DCFUSE4E-50A	DCFH-NH1X
30	4	32	20G...E032	35.2	48.0				30.0	28.9	40	60	100	–	M-F8E-C32	9086	34.1	DCFUSE4E-63A	DCFH-NH1X
	5	32				20G...E041	48.0	61.5	30.0	28.9	40	60	100	–	M-F8E-C32	13630	34.1	DCFUSE3ES-63A	DCFH-NH1
40	5	41	20G...E041	45.1	61.5	20G...E052	61.5	78.0	38.5	37.0	50	80	120	–	–	–	43.7	DCFUSE3ES-70A	DCFH-NH1
50	5	52	20G...E052	57.2	78.0				48.8	47.0	60	100	150	–	–	–	55.4	DCFUSE3ES-90A	DCFH-NH1
7.5	6	9.1				20G...E012	13.7	18.0	8.5	8.2	12	20	30	–	M-xxx-C10 [9]	13630	9.7	DCFUSE5EFS-20A	DCFH-NH2
10	6	12	20G...E012	13.2	18.0	20G...E018	18.0	27.0	11.2	10.8	15	25	40	–	M-xxx-C16 [9]	13630	12.8	DCFUSE5EFS-25A	DCFH-NH2
15	6	18	20G...E018	19.8	27.0	20G...E023	27.0	34.5	16.9	16.3	25	35	60	–	M-F8E-C20	13630	19.2	DCFUSE5EFS-40A	DCFH-NH2
20	6	23	20G...E023	25.3	34.5	20G...E028	34.5	42.0	21.6	20.8	30	45	70	–	M-F8E-C25	13630	24.5	DCFUSE5EFS-50A	DCFH-NH2
	6	24	20G...E024	26.4	36.0				22.6	21.7	30	45	70	–	M-F8E-C25	13630	24.5	DCFUSE5EFS-50A	DCFH-NH2
	6	22				20G...E024	33.0	39.6	20.7	19.9	30	45	70	–	M-F8E-C25	13630	23.5	DCFUSE5EFS-50A	DCFH-NH2
25	6	28	20G...E028	30.8	42.0	20G...E033	42.0	50.4	26.3	25.3	35	50	80	–	M-F8E-C32	13630	29.8	DCFUSE5EFS-50A	DCFH-NH2
30	6	33	20G...E033	36.3	49.5	20G...E042	49.5	63.0	31.0	29.8	40	70	100	–	M-F8E-C32	13630	35.2	DCFUSE5EFS-63A	DCFH-NH2
40	6	42	20G...E042	46.2	63.0	20G...E053	63.0	79.5	39.4	37.9	50	80	120	–	–	–	44.8	DCFUSE5EFS-90A	DCFH-NH2
50	6	53	20G...E053	58.3	79.5				39.8	47.9	60	100	150	–	–	–	56.5	DCFUSE5EFS-110A	DCFH-NH2
	6	52				20G...E063	78.0	94.5	39.1	47.0	60	100	150	–	–	–	55.4	DCFUSE5EFS-110A	DCFH-NH2
60	6	63	20G...E063	69.3	94.5	20G...E077	94.5	115.5	47.3	56.9	75	125	180	–	–	–	67.2	DCFUSE5EFS-110A	DCFH-NH2
75	6	77	20G...E077	84.7	115.5	20G...E099	115.5	148.5	57.8	69.5	90	150	220	–	–	–	82.1	DCFUSE5EFS-150A	DCFH-NH2
100	6	99	20G...E099	108.9	148.5	20G...E125	148.5	187.5	76.1	91.5	125	200	280	–	–	–	108	DCFUSE5EFS-180A	DCFH-NH2
125	6	125	20G...E125	137.5	187.5	20G...E144	187.5	225.0	96.0	115.5	150	250	360	–	–	–	136.4	DCFUSE5EFS-250A	DCFH-NH2
150	6	144	20G...E144	158.4	216.0				110.7	133.1	175	250	400	–	–	–	157.1	DCFUSE5EFS-315A	DCFH-NH2
	7	144				20G...E192	216.0	288.0	110.7	133.1	175	300	400	–	–	–	157.1	DCFUSE6EFS-350A	DCFH-NH3
200	7	192	20G...E192	211.2	288.0	20G...E242	288.0	363.0	147.6	177.5	225	400	550	–	–	–	209.5	DCFUSE6EFS-350A	DCFH-NH3
250	7	242	20G...E242	266.2	363.0	20G...E289	363.0	435.6	186.0	223.7	300	450	690	–	–	–	264.1	DCFUSE6EFS-450A	DCFH-NH3
300	7	289	20G...E289	317.9	433.5				222.1	267.1	350	500	800	–	–	–	315.3	DCFUSE6EFS-550A	DCFH-NH3

(1) Applied rating refers to the motor that is connected to the drive. For example, a E063 drive can be used in Normal Duty mode on a 60 Hp motor, or in Heavy Duty mode on a 50 Hp motor. The drive can be programmed for either mode. For any given catalog number, Normal Duty mode provides higher continuous current but smaller overload current when compared to Heavy Duty mode. See parameter 0:35 [Duty Rating Cfg].
(2) Only enclosure codes F and N. See Drive Rating Cross-reference in PowerFlex 755TS Products with TotalFORCE Control Installation Instructions, publication 750-IN119, for frame sizes of other enclosure types.
(3) For UL compliance - fast-acting class J (Bussmann DFJ) or fast-acting class T (Bussmann JJS) fuses only. Equivalent fuses of class J, T may be used if they have lower I_{peak} and I^2t ratings than the Bussmann JJS fuse. For CE compliance - type gR fuses (Bussmann 170M - size 00 to 3, IEC 60269 or DIN 43620, or FWP-_G10F, _G14F, _G22F) only. Minimum protection device size is the lowest rated device that supplies maximum protection without nuisance tripping. Max. source SCCR = 100 kA.
(4) For UL compliance - fast-acting class J (Bussmann DFJ) or fast-acting class T (Bussmann JJS) fuses only. Equivalent fuses of class J, T may be used if they have lower I_{peak} and I^2t ratings than the Bussmann JJS fuse. For CE compliance - type gR fuses (Bussmann 170M - size 00 to 3, IEC 60269 or DIN 43620, or FWP-_G10F, _G14F, _G22F) only. Maximum protection device size is the highest rated device that supplies drive protection. Max. source SCCR = 100 kA.
(5) Circuit breaker - inverse time breaker - must be used with a fuse specified in the table. For US NEC, minimum circuit breaker size is 125% of motor FLA. Ratings that are shown are maximum values.
(6) Bulletin 140M/140MT with adjustable current range must have the current trip set to the minimum range so that the device does not trip.
(7) Bulletin 140M/140MT is UL Listed for 600Y/347V. Not UL Listed for use on 600V Delta/Delta, corner ground, or high-resistance ground systems.
(8) Bulletin 140M/140MT must be Frame C (140M-C2E-xxx or 140MT-C3E-xxx) or Frame D (140M-D8E-xxx or 140MT-D9E-xxx). Max. source SCCR = 30 kA.
(9) Bulletin 140M/140MT must be Frame D (140M-D8E-xxx or 140MT-D9E-xxx) or Frame F (140M-F8E-xxx). Max. source SCCR = 30 kA.
(10) When using the Bulletin 140M/140MT, the drive must be installed in a ventilated or non-ventilated enclosure with the minimum volume that is specified in this column. Application-specific thermal considerations can require a larger enclosure.
(11) DC fuses specified are UL recognized and CE compliant.

690V AC and 932V DC Input Protection Devices—Drive Frames 6 and 7

Applied Rating (1)	Frame (2)	Cont. Output Amps	Sized For Normal Duty			Sized For Heavy Duty			Input Quantities		AC Input Protection Devices				Input Quantities	DC Input Protection (6)	
			Cat. No.	Output Overload Amps		Cat. No.	Output Overload Amps		Cont. AC Input		Fuse		Circuit Breaker (5)		Cont. DC Input	Fuse Cat. No. 20-750-...	Fuse Holder Cat. No. 20-750-...
kW				1 Min	3 s		1 Min	3 s	kVA	Amps	Min [A](3)	Max [A](4)	Max [A]	Min. Encl. Vol. [in.3]	Amps		
690V AC Input															**932V DC Input**		
5.5	6	9				20G...F012	13.5	18.0	8.4	8.1	15	20	30	–	9.6	DCFUSE5EFS-20A	DCFH-NH2
7.5	6	12	20G...F012	13.2	18.0	20G...F015	18.0	22.5	11.2	10.8	15	25	40	–	12.8	DCFUSE5EFS-20A	DCFH-NH2
11	6	15	20G...F015	16.5	22.5	20G...F020	22.5	30.0	14.0	13.5	20	30	50	–	16.0	DCFUSE5EFS-25A	DCFH-NH2
15	6	20	20G...F020	22.0	30.0	20G...F023	30.0	36.0	3.7	18.0	25	40	60	–	21.3	DCFUSE5EFS-40A	DCFH-NH2
18.5	6	23	20G...F023	25.3	34.5	20G...F030	34.5	45.0	21.5	20.7	25	45	70	–	24.5	DCFUSE5EFS-50A	DCFH-NH2
22	6	30	20G...F030	33.0	45.0	20G...F034	45.0	54.0	28.1	27.0	35	60	90	–	31.9	DCFUSE5EFS-50A	DCFH-NH2
30	6	34	20G...F034	37.4	51.0	20G...F046	51.0	69.0	31.8	30.6	40	70	100	–	36.2	DCFUSE5EFS-63A	DCFH-NH2
37	6	46	20G...F046	50.6	69.0	20G...F050	69.0	82.8	43.1	41.5	60	90	130	–	48.9	DCFUSE5EFS-90A	DCFH-NH2
45	6	50	20G...F050	55.0	75.0	20G...F061	75.0	91.5	46.9	45.1	60	100	150	–	53.2	DCFUSE5EFS-110A	DCFH-NH2
55	6	61	20G...F061	67.1	91.5	20G...F082	91.5	123.0	57.2	55.0	70	125	180	–	64.9	DCFUSE5EFS-110A	DCFH-NH2
75	6	82	20G...F082	90.2	123.0	20G...F098	123.0	147.6	76.8	73.9	100	150	240	–	87.3	DCFUSE5EFS-150A	DCFH-NH2
90	6	98	20G...F098	107.8	145.0	20G...F119	147.0	178.5	91.8	88.3	125	175	280	–	104.3	DCFUSE5EFS-180A	DCFH-NH2
110	6	119	20G...F119	130.9	178.5	20G...F142	178.5	214.2	114.1	109.8	150	225	340	–	129.6	DCFUSE5EFS-250A	DCFH-NH2
132	6	142	20G...F142	156.2	213.0				136.1	131.0	175	250	400	–	154.7	DCFUSE5EFS-315A	DCFH-NH2
	7	142				20G...F171	213.0	256.5	136.1	131.0	175	300	400	–	154.7	DCFUSE5EFS-350A	DCFH-NH3
160	7	171	20G...F171	188.1	256.5	20G...F212	256.5	318.0	163.9	157.7	200	350	490	–	186.2	DCFUSE5EFS-350A	DCFH-NH3
200	7	212	20G...F212	233.2	318.0	20G...F263	318.0	394.5	203.3	195.6	250	400	600	–	230.9	DCFUSE5EFS-450A	DCFH-NH3
250	7	263	20G...F263	289.3	394.5				252.1	242.6	300	500	750	–	286.4	DCFUSE5EFS-550A	DCFH-NH3

(1) Applied rating refers to the motor that is connected to the drive. For example, a F061 drive can be used in Normal Duty mode on a 55 kW motor, or in Heavy Duty mode on a 45 kW motor. The drive can be programmed for either mode. For any given catalog number, Normal Duty mode provides higher continuous current but smaller overload current when compared to Heavy Duty mode. See parameter 0:35 [Duty Rating Cfg].
(2) Only enclosure codes F and N. See Drive Rating Cross-reference in PowerFlex 755TS Products with TotalFORCE Control Installation Instructions, publication 750-IN119, for frame sizes of other enclosure types.
(3) For UL compliance - fast-acting class J (Bussmann DFJ) or fast-acting class T (Bussmann JJS) fuses only. Equivalent fuses of class J, T may be used if they have lower I_{peak} and I^2t ratings than the Bussmann JJS fuse. For CE compliance - type gR fuses (Bussmann 170M - size 00 to 3, IEC 60269 or DIN 43620, or FWP-_G10F, _G14F, _G22F) only. Minimum protection device size is the lowest rated device that supplies maximum protection without nuisance tripping. Max. source SCCR = 100 kA.
(4) For UL compliance - fast-acting class J (Bussmann DFJ) or fast-acting class T (Bussmann JJS) fuses only. Equivalent fuses of class J, T may be used if they have lower I_{peak} and I^2t ratings than the Bussmann JJS fuse. For CE compliance - type gR fuses (Bussmann 170M - size 00 to 3, IEC 60269 or DIN 43620, or FWP-_G10F, _G14F, _G22F) only. Maximum protection device size is the highest rated device that supplies drive protection. Max. source SCCR = 100 kA.
(5) Circuit breaker - inverse time breaker - must be used with a fuse specified in the table. For US NEC, minimum circuit breaker size is 125% of motor FLA. Ratings that are shown are maximum values.
(6) DC fuses specified are UL recognized and CE compliant.

Power Wiring

The following section describes the cabling recommendations for three-phase power and motor connections.

For detailed installation instructions including cable entry and exit and customer connections options, see the PowerFlex 755T Products with TotalFORCE Control Installation Instructions, publication 750-IN119. See also Wiring and Grounding Guidelines for Pulse Width Modulated (PWM) AC Drives, publication DRIVES-IN001, for more information on grounding.

ATTENTION: National codes and standards (NEC, BSI, and so forth) and local codes outline provisions for safely installing electrical equipment. Installation must comply with specifications regarding wire types, conductor sizes, branch circuit protection, and disconnect devices. Failure to do so can result in personal injury and/or equipment damage.

Power Cable Recommendations

Type	Description	Min. Insulation Rating
Power (1)(2)	• Three tinned copper conductors with XLPE insulation. • Copper braid/aluminum foil combination shield and tinned copper drain wire. • PVC jacket.	600V, 75 °C (167 °F)

(1) Control and signal wires should be separated from power wires by at least 0.3 meters (1 foot).
(2) The use of shielded wire for AC input power may not be necessary but is always recommended.

Terminal Block Specifications

Frames 1...5 Power Terminal Block

Frame	Wire Size Range (1) (2)		Strip Length	Recommended Torque
	Maximum	Minimum		
1 and 2	4.0 mm^2 (10 AWG)	0.2 mm^2 (24 AWG)	8.0 mm (0.31 in.)	0.57 N•m (5 lb•in)
3	16.0 mm^2 (6 AWG)	0.5 mm^2 (20 AWG)	10.0 mm (0.39 in.)	1.2 N•m (10.6 lb•in)
4	25.0 mm^2 (3 AWG)	2.5 mm^2 (14 AWG)	10.0 mm (0.39 in.)	2.7 N•m (24 lb•in)
5	35.0 mm^2 (1 AWG)	10.0 mm^2 (8 AWG)	12.0 mm (0.5 in.)	4.0 N•m (35 lb•in)

(1) Maximum/minimum wire sizes that the terminal block will accept - these are not recommendations.
(2) Terminal blocks are designed to accept a single wire.

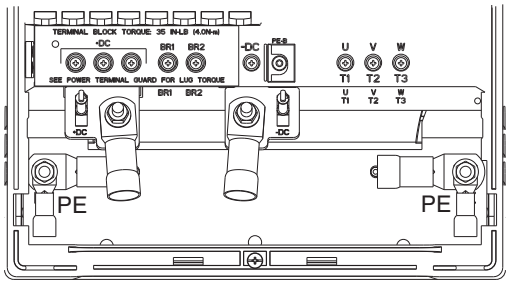
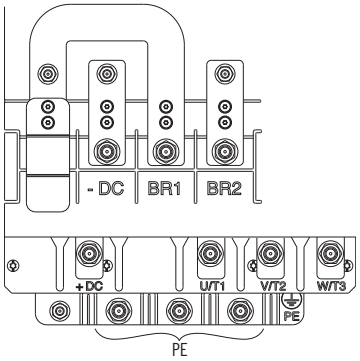
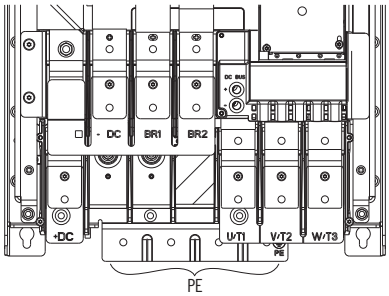
Frames 6 and 7 Power Terminal Block

Frame	Maximum Lug Width	Terminal Bolt Size	Recommended Torque
6	34.6 mm (1.36 in.)	M8 x 1.25	11.3 N•m (100 lb•in)
7	43.5 mm (1.71 in.)	M8 x 1.25	11.3 N•m (100 lb•in)

Frames 1...7 PE Grounding Stud

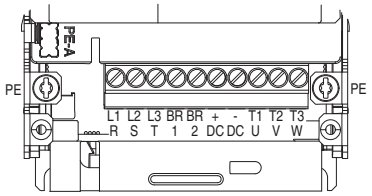
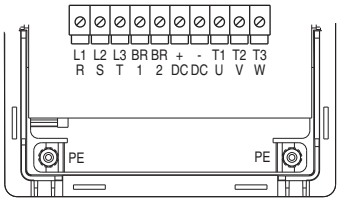
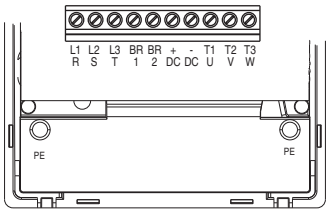
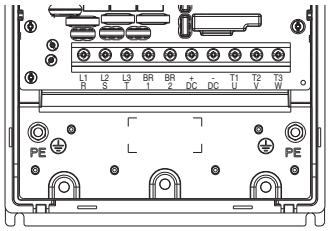
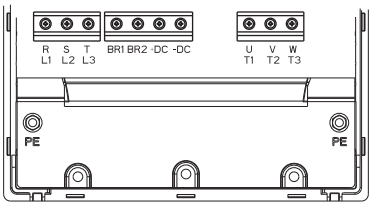
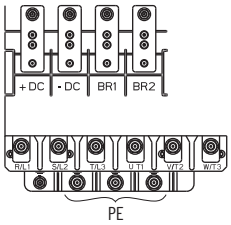
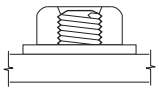
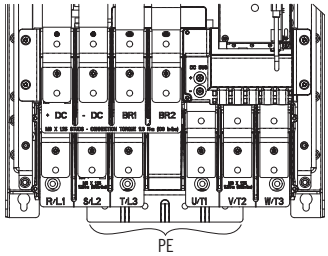
Frame	Recommended Torque	Terminal Bolt/Screw Size	Recommended Tool
1	1.36 N•m (12 lb•in)	M4	T20 hexalobular (Torx) #1 flat screwdriver
2	1.36 N•m (12 lb•in)	M4	7 mm hex deep socket
3	3.4 N•m (30 lb•in)	M6	10 mm hex deep socket
4			
5			
6	11.3 N•m (100 lb•in)	M8	13 mm hex socket
7			

Frames 5...7 Common DC Input Power Terminal Locations

Frame	Power Terminal Blocks
5	
6	
7	

Terminal	Terminal Name	Description
+DC	DC Bus (+)	DC Input Power Connections
-DC	DC Bus (-)	
BR1	DC Brake (+)	Dynamic Brake Resistor Connections
BR2	DC Brake (-)	
U	U (T1)	Motor Connections
V	V (T2)	
W	W (T3)	
PE	PE Ground	Terminating point to chassis ground for incoming DC line and motor shield.

Frames 1...7 AC Input Power Terminal Locations

Frame	Power Terminal Blocks
1	
2	
3	
4	
5	
6	 When nuts are fully seated on the Frame 6 power terminals, the stud will not extend beyond the top edge of the nut. Thread engagement is sufficient to properly secure the extension assembly. 
7	

Terminal	Terminal Name	Description
+DC	DC Bus (+)	DC input power connections
-DC	DC Bus (–)	
BR1	DC Brake (+)	Dynamic brake resistor connections
BR2	DC Brake (–)	
U	U (T1)	Motor connections
V	V (T2)	
W	W (T3)	
R	R (L1)	AC line input power connections
S	S (L2)	
T	T (L3)	
PE / ⏚	PE Ground	Terminating point to chassis ground for incoming DC line and motor shield.

Frames 1...7 PE Grounding Stud

Frames 1...7 PE Grounding Stud

Frame	Terminal Bolt Size	Recommended Torque
1 and 2	M4	1.36 N•m (12 lb•in)
3...5	M6	3.4 N•m (30 lb•in)
6 and 7	M8	11.3 N•m (100 lb•in)

Shield Termination—SHLD

The shield terminal provides a grounding point for the motor cable shield. The motor cable shield terminal must be connected to an earth ground by a separate continuous lead. Connect the **motor cable** shield to this terminal on the drive end and the motor frame (motor end). Use a shield terminating or EMI clamp to connect shield to this terminal. See Wiring and Grounding Guidelines for Pulse Width Modulated (PWM) AC Drives, publication DRIVES-IN001.

RFI Filter Grounding

Using an optional RFI filter can result in relatively high ground leakage currents. Therefore, the **filter must only be used in installations with grounded AC supply systems and be permanently installed and solidly grounded** (bonded) to the building power distribution ground. Be sure that the incoming supply neutral is solidly connected (bonded) to the same building power distribution ground. Grounding must not rely on flexible cables and must exclude any form of plug or socket that would permit inadvertent disconnection. Some local codes may require redundant ground connections. Periodically check the integrity of all connections. See the instructions that are supplied with the filter.

Grounding Requirements

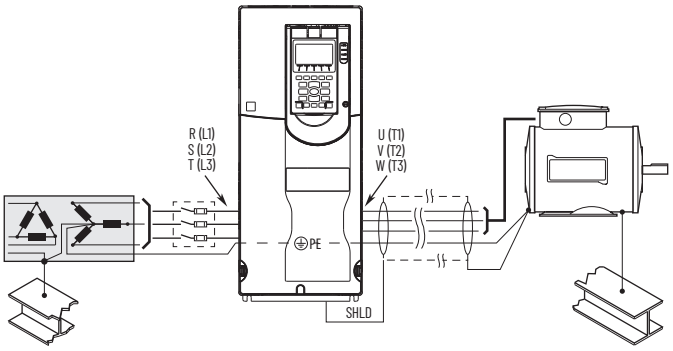
The safety ground-PE must be connected to system ground. Ground impedance must conform to the requirements of national and local industrial safety regulations and/or electrical codes. Periodically check the integrity of all ground connections.

Recommended Grounding Scheme

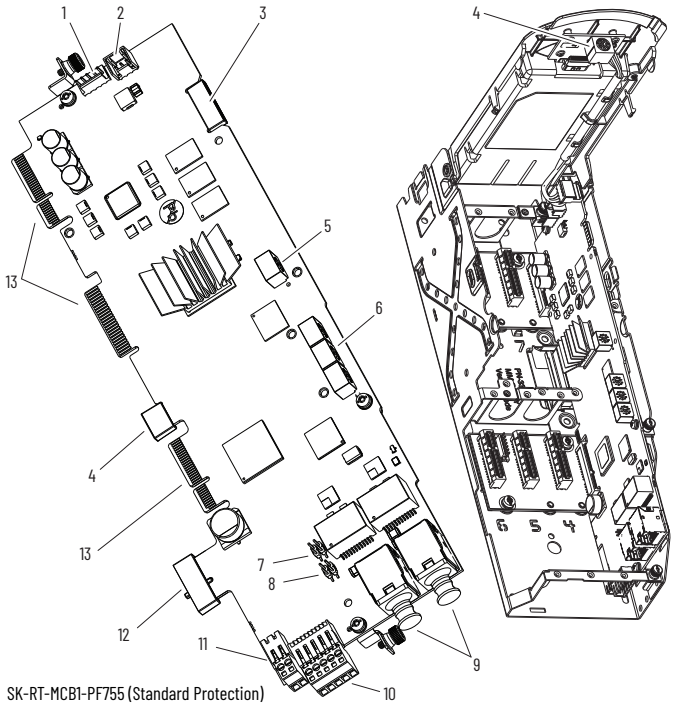
A single point (PE only) grounding scheme should be used. Some applications may require alternate grounding schemes, see the Wiring and Grounding Guidelines for Pulse Width Modulated (PWM) AC Drives, publication DRIVES-IN001, for more information. These applications include installations with long distances between drives or drive line-ups, which could cause large potential differences between the drive or line-up grounds.

For installations within a cabinet, use one safety ground point or ground bus bar connected directly to building steel. Independently ground all circuits including the AC input ground conductor directly to this point/bar.

Typical Grounding



Main Control Circuit Board

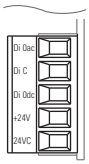


SK-RT-MCB1-PF755 (Standard Protection)
SK-RT-MCB1-PF755-XT (Corrosive Gas Protection)

Item	Name	Description
1	HIM Connector	Terminal block connector for the HIM Cradle and DPI Port 1 cable connection.
2	Fan Connector	Power supply for internal cooling fan.
3	Protective Cap	Protective caps that are present on XT main control boards. Do not remove these caps.
4	DPI Port 1 Connector	If a cable is not connected to the DPI port on the HIM cradle, be sure to leave the protective cover installed.
5	Control Selector	Rotary switch for setting the programming mode.
6	Built-in EtherNet/IP(1) Address Selectors	Rotary switches for setting lowest octet of EtherNet address (forces address to 192.168.1.xxx). See the PowerFlex Drives with TotalFORCE Control Programming Manual (firmware revision 10.*xxx* and later), publication 750-PM101 for instructions on setting the IP address.
7	ENABLE Jumper	Hardware enable jumper (P7). TB1 becomes an Enable when this jumper is removed.
8	SAFETY Jumper	Safety enable jumper (P8). Removed when safety option is installed.
9	Built-in EtherNet/IP(1) Connectors	EtherNet/IP network cable connections. If cables are not connected to the EtherNet/IP connectors, be sure to leave the protective covers installed.
10	TB1	I/O terminal block.
11	Terminal Block Connector	Reserved for future use.
12	TAM Connector	Used to connect the torque accuracy module (TAM). Remove cap only when the module, catalog number 20-750-TSTAM-*xx*-XT, is installed.
13	Edge Connectors	Provide signal and power interconnections between the main control board, the backplane interface boards, and the power layer interface board. The XT main control circuit board has PolySi PST-576 dielectric grease applied to the edge connectors. **Important:** When handling circuit boards with grease: Do not touch or remove the grease Do not allow the grease to become contaminated If necessary, an edge connector grease applicator kit, catalog number SK-RM-GRAPP1, is available to apply new grease to edge connectors on circuit boards.

(1) See the PowerFlex Drives with TotalFORCE Control Built-in EtherNet/IP Adapter User Manual, publication 750COM-UM009.

Main Control Board TB1 I/O Terminal Designations

Fixed I/O	Terminal	Name	Description
	Di 0ac	Digital input 0 120V AC (132V AC max)	Connections for AC power supply. High state: 100...132V AC Low state: 0...30V AC
	Di C	Digital input common	Digital input common
	Di 0dc	Digital input 0 24V DC (30V DC max)	Connections for DC power supply. High state: 20...24V DC Low state: 0...5V DC
	+24V	+24 volt power	Connections for product supplied 24V power. 150 mA maximum.
	24VC	24 volt common	

Lift the Equipment

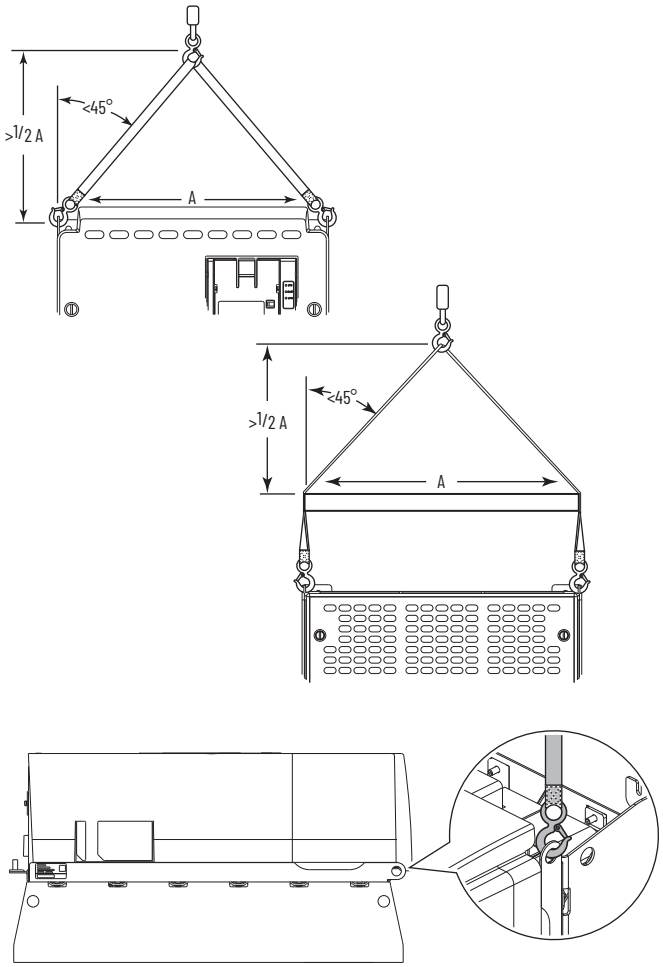
All lifting equipment and lifting components (hooks, bolts, lifts, slings, chains, and so forth) must be properly sized and rated to safely lift and hold the weight of the equipment while mounting. See Approximate Drive Weights on page 3.

ATTENTION: To guard against possible personal injury and/or equipment damage...
- Inspect all lifting hardware for proper attachment before lifting equipment.
- Do not allow any part of the equipment or lifting mechanism to make contact with electrically charged conductors or components.
- Do not subject the equipment to high rates of acceleration or deceleration while transporting to the mounting location or when lifting.
- Do not allow personnel or their limbs directly underneath the equipment when it is being lifted and mounted.

Attach Lifting Hardware

Rig the lifting hardware according to the following diagrams.

Frames 5...6



Typical lift point. Frame 6 shown.

Rockwell Automation Support

Use these resources to access support information.

Technical Support Center	Find help with how-to videos, FAQs, chat, user forums, Knowledgebase, and product notification updates.	rok.auto/support
Local Technical Support Phone Numbers	Locate the telephone number for your country.	rok.auto/phonesupport
Technical Documentation Center	Quickly access and download technical specifications, installation instructions, and user manuals.	rok.auto/techdocs
Literature Library	Find installation instructions, manuals, brochures, and technical data publications.	rok.auto/literature
Product Compatibility and Download Center (PCDC)	Download firmware, associated files (such as AOP, EDS, and DTM), and access product release notes.	rok.auto/pcdc

Documentation Feedback

Your comments help us serve your documentation needs better. If you have any suggestions on how to improve our content, complete the form at rok.auto/docfeedback.

Waste Electrical and Electronic Equipment (WEEE)

At the end of life, this equipment should be collected separately from any unsorted municipal waste.

Rockwell Automation maintains current product environmental compliance information on its website at rok.auto/pec.

Rockwell Otomasyon Ticaret A.Ş. Kar Plaza İş Merkezi E Blok Kat:6 34752, İçerenköy, İstanbul, Tel: +90 (216) 5698400 EEE Yönetmeliğine Uygundur

Connect with us.

rockwellautomation.com — expanding **human possibility**®

AMERICAS: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444
EUROPE/MIDDLE EAST/AFRICA: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640
ASIA PACIFIC: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846
UNITED KINGDOM: Rockwell Automation Ltd. Pitfield, Kiln Farm Milton Keynes, MK11 3DR, United Kingdom, Tel: (44)(1908) 838-800, Fax: (44)(1908) 261-917

PN-W05839

Publication 750-PC112B-EN-P - March 2023 | Supersedes 750-PC112A-EN-P - February 2022