



# MNS-MCC

## Low Voltage Motor Control Center

### Application Guide

# Table of Contents

General.....	3
Product Description.....	4
Safety Features.....	8
Available Section Types.....	9
Available Unit Types.....	11
Technical Description.....	16
Mains and Feeders.....	25
Motor Starters.....	33
Softstarters.....	40
Drives.....	50
Components of Units.....	61
Layouts.....	72

# General

The MNS-MCC is designed to meet the industry requirements for markets such as:

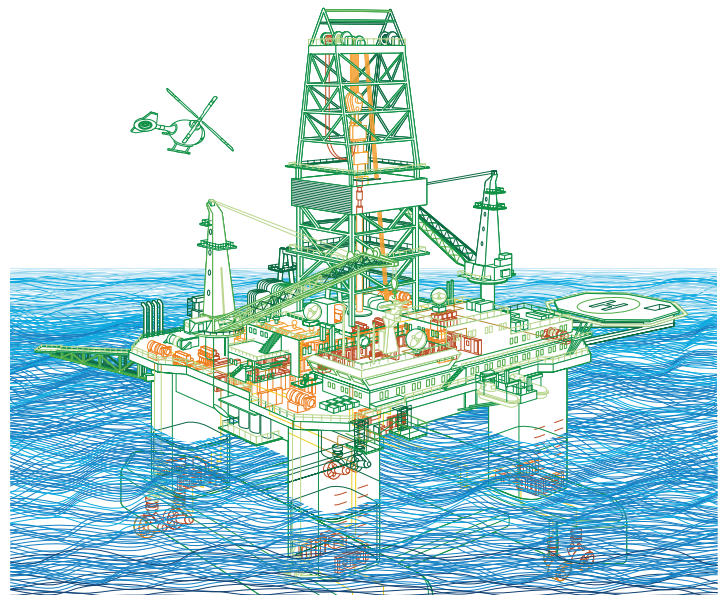
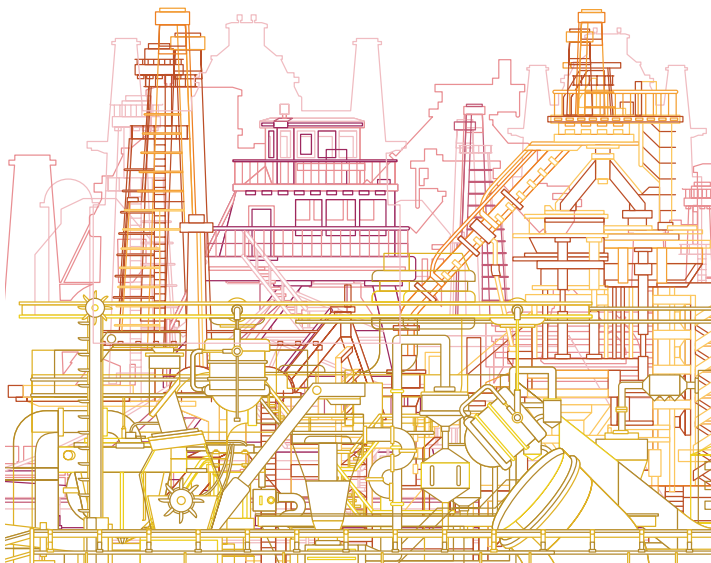
- Oil and Gas/Petrochemical
- Chemical
- Mining and Minerals
- Power Generation
- Water/Wastewater
- Pulp and Paper

For over 30 years, ABB has been the global leader for low voltage switchgear and motor control centers (MNS). In drawing upon the heritage and excellence of the innovative technology of the MNS and its withdrawable unit technology, ABB has enhanced its product offering in North America with the new MNS-MCC. The MNS-MCC has been designed, built, and tested to meet all requirements for standards UL 845, CSA and NOM.

The high flexibility of the MNS-MCC platform results from a framework construction with maintenance-free bolted connections that can be equipped as required with standardized components and can be perfectly adapted to each application. The consistent application of the modular principle both in electrical and mechanical design permits optional selection of the structural design, interior arrangement and degree of protection according to the operating and environmental conditions.

The MNS-MCC offers many advantages, and an alternate solution to conventional-type installations that include:

- Higher levels of safety
- Arc flash features
- Reduced maintenance
- Highly advanced withdrawable unit technology allowing ease of assembly, removal, and replacement with few or no tools
- High operational reliability and availability
- Main bus up to 4000A and vertical bus up to 1600A
- Compact, space-saving design
- Bus splice windows
- Economical energy distribution in the sections
- Easy project and detail engineering through standardized components
- Comprehensive range of standardized types
- Various design levels depending on operating and environmental conditions
- Seismic compliance to IBC-2006



# Product Description

## System Overview

The basic design:

- Standard UL845, CSA and NOM
- Enclosure Type: NEMA 1A
- Withdrawable unit technology

Available with the following nominal ratings:

- 600 Vac maximum
- 4000A maximum Horizontal Bus; 1600A maximum Vertical Bus
- 60 Hz
- 100kA maximum symmetrical short circuit SCCR at 600V

## Standards

The MNS-MCC is designed, tested, and constructed in accordance with the following industry standards and guidelines:

- UL845 — Low Voltage Motor Control Centers
- UL50 — Enclosures for Electrical Equipment
- NOM NMXJ853 — Normas Oficiales Mexicanas
- NFPA 70E — National Electric Code Safety Requirements
- NFPA 70 — National Electric Code
- NEMA ICS 1B — Motor Control Centers
- NEMA 250 — Enclosures for Electrical Equipment
- IEEE 1584 — Arc Flash Calculations Standard
- CSA C22.2 — Canadian Low Voltage Electrical Equipment
- ANSI C84.1 — Voltage Tolerances for North America
- Seismic Qualification to IBC-2006 and CBC-2007, AC156, “Shake-Table Testing for Nonstructural Components and Systems,” and ASCE/SEI 7-05, “Minimum Design Loads for Buildings and Other Structures”

ABB MNS-MCCs are manufactured to Underwriters Laboratories (UL) Standard 845 and carry the “UL Listed” label, where applicable. The “UL Listed” label is applied to vertical sections and units that are installed within those sections. Sections and installed units are independently listed devices. Thus, it is possible to have non-UL Listed units installed in UL Listed vertical sections. An ongoing temperature and short circuit design test program, as required by UL845, ensures a quality product that meets the latest safety codes.



## Technical Data

<b>Electrical Ratings</b>	
Available nominal operating voltages	208Vac, 240Vac, 480Vac, 600Vac
Available power system types	3 phase, 3 wire; 3 phase, 4 wire
Frequency	60 Hz
Voltage tolerance	+/-10%
Frequency tolerance	+/-1%
Short circuit current withstand, 480Vac	42KA, 65KA, 100KA <sup>1</sup>
Short circuit current withstand, 600Vac	25KA, 42KA, 65KA <sup>1</sup>
<b>Continuous Current Ratings</b>	
Horizontal main bus	800A, 1200A, 1600A, 2000A <sup>2</sup> , 2500A, 3200A <sup>3</sup> , 4000A <sup>3</sup>
Vertical distribution bus	800A, 1600A
Neutral bus (horizontal)	800A, 1200A, 1600A
Neutral bus (vertical)	800A
Ground bus	400A
<b>Seismic Ratings/Testing</b>	
	IBC2006, CBC 2007, AC156
	ASCE/SEI 7-05

Notes:

- 1 Consult factory for additional restrictions.
- 2 Available with or without ventilated enclosure.
- 3 Available only with ventilated enclosure.

## Environmental Data

<b>Environmental Data</b>		
	Enclosure rating	NEMA 1A
<b>Environmental Tolerances</b>		
	Ambient temperature (storage)	-30C to 65C
	Ambient temperature (operation)	0C to 40C
	Humidity	95% (Non-condensing)
	Altitude	1000m (3300ft)

# Product Description

## Mechanical Data

Standard Enclosure Dimensions		
Height		92" (2300mm)
Width		20" (500mm)
Depth		20" (500mm)
Top wireway		10" (250mm)
Bottom wireway		7" (175mm)
Vertical Wireway		
Height		89" (2225mm)
Width (standard)		4" (100mm)
Width (optional)		8" (200mm)
Depth		12" (300mm)
Useable equipment space		72" (1800mm)
Spacing increments		6" (150mm)
Optional Enclosures		
Width		20"-48" (500 – 1200mm)
Finish		
Color		Gray ANSI 61
Texture		Medium
Gloss		G40 (+/- 10)
Minimum thickness		3 mils
Application		Powder coat (baked on)
Material		Polyester
Frame		
Vertical "C" profile channels		14 - gauge
Horizontal "C" profile channels		12 - gauge
Doors		16 - gauge
Sidewalls		16 - gauge minimum
Cable entry plates		14 - gauge
Roof		16 - gauge
Plug-in and Withdrawable Units		
Sides		16 - gauge minimum
Door		16 - gauge
Base Plate		16 - gauge
Mid-shelf supports		16 - gauge

### Standard Finish

The MNS-MCC's standard finish color is a hammer-tone gray (ANSI 61) with a gloss: G40 +/- 10. The painting process is an electrostatic-coat system using polyester powder coat paint. The completed finish has minimum 3 mils dry film thickness. The process includes cleaning any grease or phosphate, rinsing, spray coating, oven drying, electrostatic powder spray paint coating, and oven baking. The salt spray rating per the ASTM B 117-07a testing method is 2000 hours.

### Frame

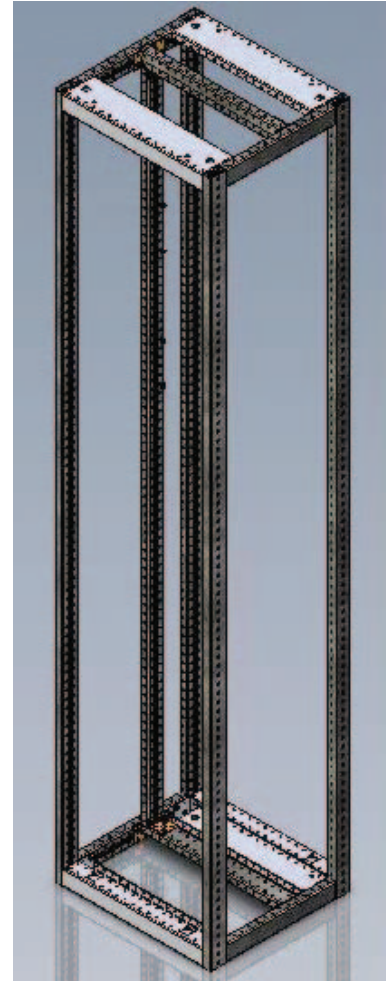
The MNS-MCC frame consists of rigid C-channel rails of 12 and 14 gauge thickness galvanized steel with holes at 1 inch (25mm) intervals. The frame members are secured with thread-forming screws that require no maintenance. The corner joints are formed of pressure plates and secured with thread-forming screws.

### Covers and Barriers

Side and rear panels on the MNS-MCC are made with 16-gauge sheet metal secured by threaded screws. The roof plate is a single piece of 16-gauge galvanized material. Each section is separated from the next by vertical 16-gauge galvanized barriers located on the ends of the bus compartment.

### Structure steel gauge information

Part Description	Thickness (Gauge)
Base channels	12
Vertical "C" Channel	14
Top cover	16
Side cover	16
Back cover	16
Unit door	16
Vertical wireway door	16
Unit base plate	16
Right side plate unit	16
Left side plate unit	14
Back plate unit	16



### Paint specification

Structure Features	Tin-plated copper / Silver-plated
Horizontal bus material	copper
Horizontal ground bus material	Copper
Channels	Galvanized steel
Top, back and side covers	Gray ANSI 61
Doors	Gray ANSI 61
Apparatus plate	White

# Safety Features

## Closed Door Unit Removal

The MNS-MCC allows withdrawable units to be removed without the need to open the door. The hinged door is attached to the unit and securely held closed by steel quarter-turn latches. In order to remove the unit, the rotary handle must be placed in the MOVE position and pulled to the ISOLATED position.

Control wiring and power connections are done via pull-apart terminal blocks, allowing field wiring to remain intact. It's not necessary to unwire the unit prior to removing it.

## IP20 Touch Safe

Throughout the design of the MNS-MCC, the concept of IP20 touch safe is utilized. When units are de-energized and the door is open or even when units are removed from the structure, all potentially energized parts are protected against solid objects equal to or greater than 12.5 mm in diameter.





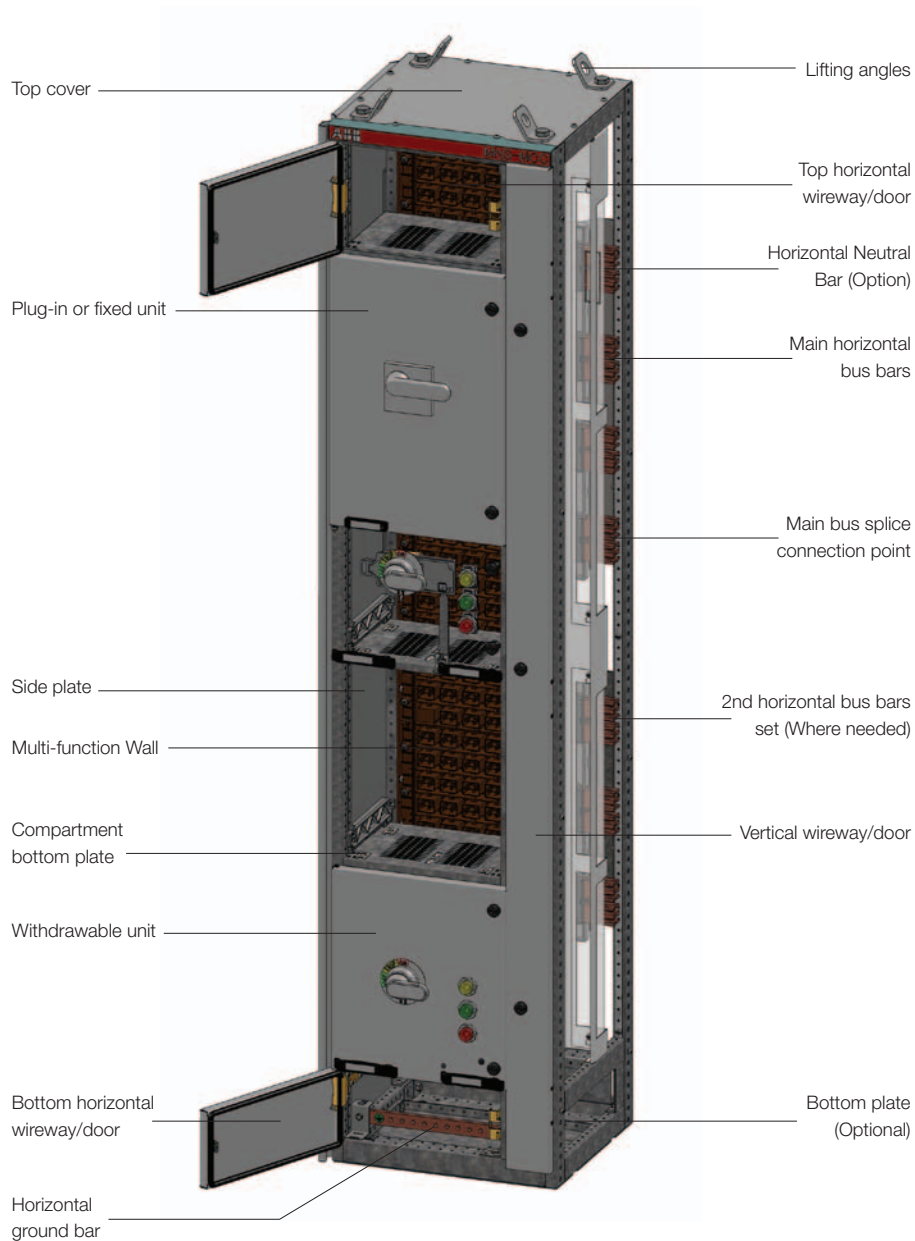
# Available Section Types

## Modular Sections

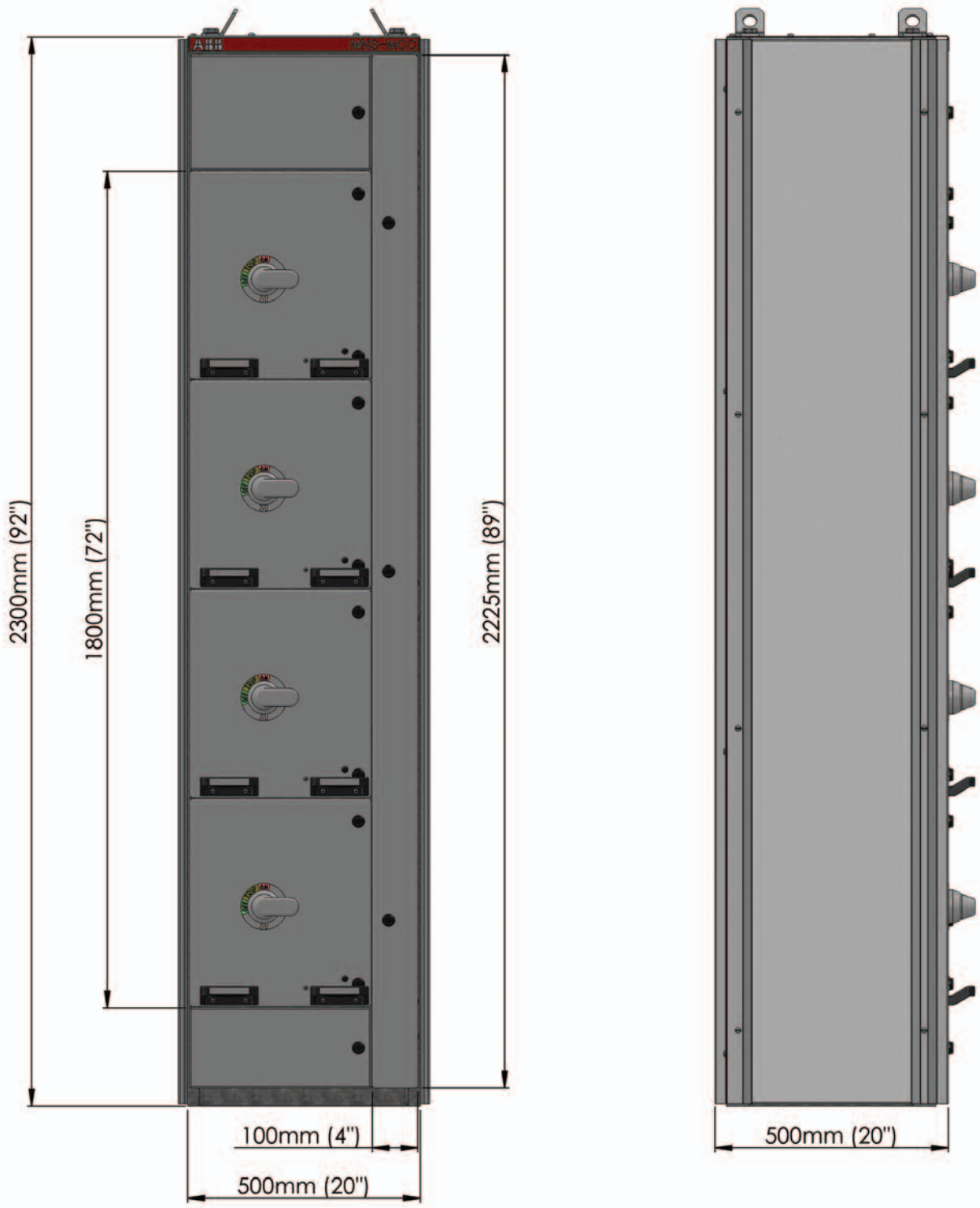
Modular sections are equipped with a vertical distribution bus assembly that accepts either withdrawable or plug-in unit types. The standard dimension for modular sections is 20" wide x 20" deep x 92" high (500mm x 500mm x 2300mm). An optional extended vertical wireway is available making the section 24" wide (600mm).

## Full-Height Unit Sections

Full height unit sections contain devices that are fixed mounted and directly connected to the horizontal bus system. These sections are also 20" deep (500mm) and 92" high (2300mm), but range in width from 20" (500mm) to 48" (1200mm) depending on the installed device(s).



# Available Section Types



# Available Unit Types

## General

The MNS-MCC accommodates three types of units:

- Plug-in type
- Withdrawable type
- Full height

The units may include disconnect feeders or a combination type of a motor starter, softstarter, or variable frequency drive (VFD) with a circuit protector.

## Plug-in Type

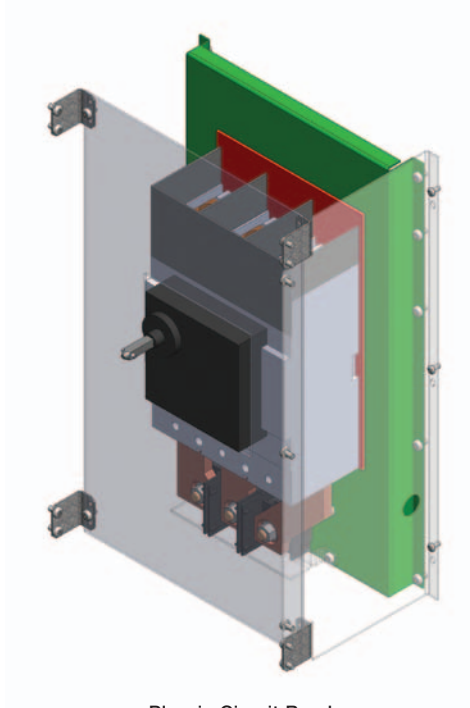
Plug-in units consist of a main or feeder molded-case breaker or main lug unit. They are connected to the vertical distribution bars with plug-in contacts. The unit is secured to the MCC frame with self-tapping screws. Each unit is covered by a hinged door, closed with a quarter-turn latch.

Circuit breaker units are operated using a rotary handle. Power terminations are made directly to the terminals of the circuit breaker or copper extender bars. A clear cover provides protection from coming in contact with live parts.

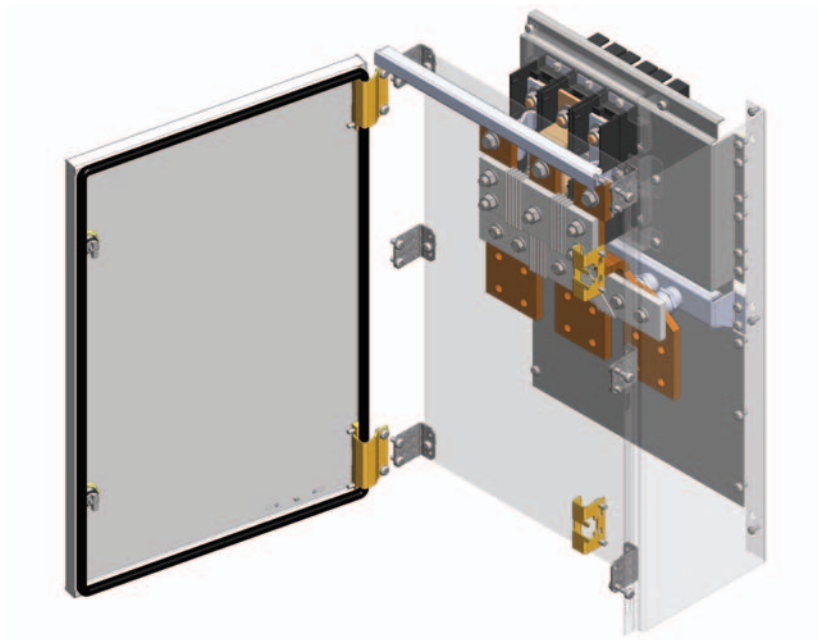
There are two options available for plug-in type units:

- Main Lug
- Circuit breaker

Note: Plug-in unit types are removable from the MCC structure simply by removing the self-tapping screws.



Plug-in Circuit Breaker



Plug-in Main Lug Unit

# Available Unit Types

## Withdrawable Units

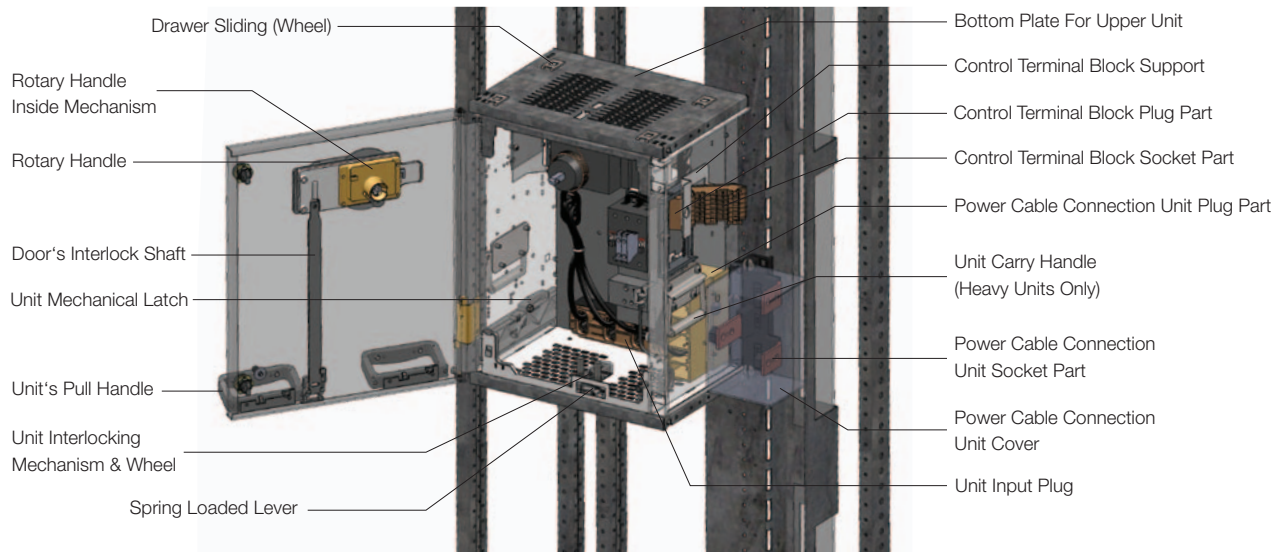
MNS-MCC offers withdrawable units that can be removed and inserted into the structure without disturbing any field wiring. The standard unit sizes are: 6", 12", 18", 24", 30", 36", 42" and 48".

Sections containing withdrawable units are supplied with the following:

- Compartment bottom steel plate with roller.
- Guide rails for the units.
- Sheet metal side wall with the outgoing control plug.
- Outgoing cable connection unit.

Features of the withdrawable unit include:

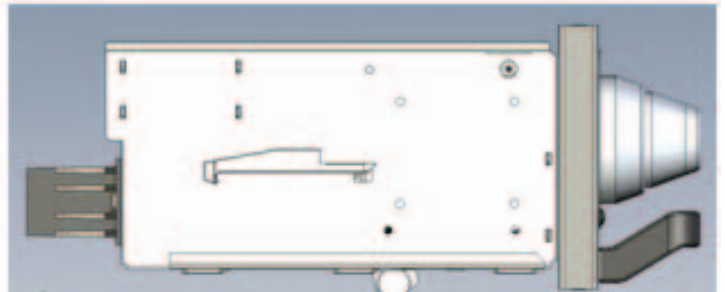
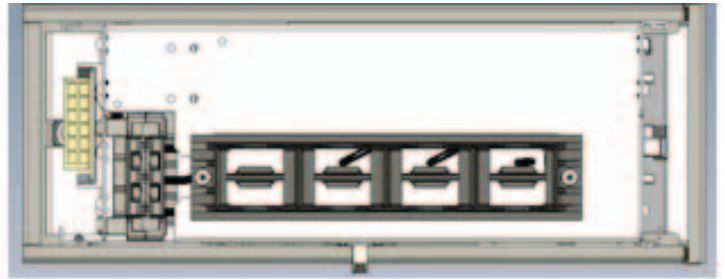
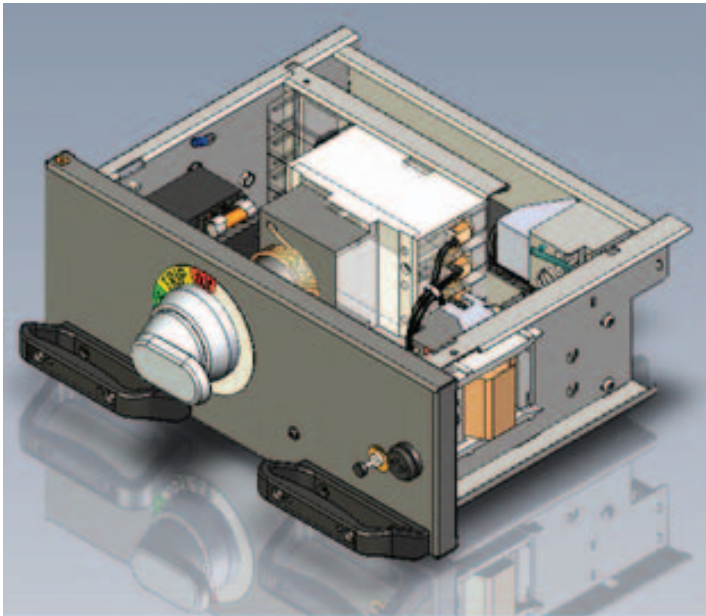
- Hinged front cover secured by a quarter-turn latch that allows ease of accessibility to the components inside the unit from the front of the section.
- Two handles attached to the front cover for ease of removing the unit from the section.
- A rotary operating handle.
- Sheet metal side wall with one end of the pull-apart terminal blocks.
- Roller wheel for mechanically interlocking the device.
- Plug-in contacts to connect to the multi-function wall and distribution bus.
- Plug-in contacts for motor lead connections.
- Electrical components such as breakers, contactors, overloads, control transformers, pilot devices and push buttons.



### Withdrawable Units

Withdrawable unit connections to the vertical distribution bus bar are provided by shrouded stabs that engage the L-shaped bus bars. Outgoing cables are connected via plug-in-contacts to the outgoing cable connection unit (main circuit) and via terminal blocks (auxiliary circuit). The outgoing cable connection

units are secured directly to the frame. The circuit breaker disconnect is operated via a rotary operating handle that is used for mechanically and electrically interlocking the unit. The rotary handle also provides control of movement of the withdrawable unit. Only when the handle is in the MOVE position can the unit be withdrawn from or inserted in the section.







6E Withdrawable Motor Starter

# Available Unit Types

## Withdrawable Unit Rotary Handle Description

Standard Operation: Each withdrawable unit's rotary operating handle is provided with four positions as indicated below.

	Operating Handle Position	Unit Physical Position	Unit Status	Comments
	ON	Engaged	On	Unit's main disconnect and control circuits are closed.
	OFF (Lockable with up to 3 padlocks)	Engaged	Off	Unit's main disconnect and internal control circuits are off. External control power will remain connected.
		Isolated	Off	Unit in this status will have both the power and the control circuits physically disengaged from their sockets. The drawer will be 30mm drawn out of the cubicle and is locked (Cannot be inserted nor removed).
		Withdrawn	Withdrawn	Unit can be removed outside the MCC (A safety mechanical latch must be defeated).
	TRIP	Engaged	Tripped	Unit's main breaker tripped after a fault. The trip can be reset by moving the handle to the OFF position.
	MOVE	Engaged	Ready to change Position	Unit's main disconnect is OFF. Drawer holding mechanism is unlocked. The unit is ready to be moved to the Isolated status.
		Isolated	Ready to change Position	Drawer holding mechanism is unlocked. The unit is ready to be moved to the Withdrawn position or return to the Engaged position.

Unit handle tested and rated for 10,000 operations

### Full-Height Unit Section

Larger motor controllers, mains and feeders are available in full height, fixed mounted units. These units are fed directly from

the horizontal bus bar. Sections containing these units do not contain vertical distribution bus bars.



# Technical Description

## Shipping Design

Each MNS-MCC shipping split is delivered on a removable wood shipping base that is heat-treated and fumigated. The maximum shipping split is 2100mm and is anchored at a minimum of four points in each split.

Shipping pallets are available in three sizes:

Length	Width	Height
1200mm	900mm	120mm
1700mm	900mm	120mm
2100mm	900mm	120mm



### Horizontal Wireways

The top horizontal wireway is 10 inches (250 mm) high.

The horizontal wireway is covered by a 10 inch (250 mm) high 16-gauge steel hinged door secured by a steel quarter-turn latch.

The bottom horizontal wireway is 7 inches (175 mm) high.

The wireway contains the ground bus. The horizontal wireway is covered by a 7 inch (175 mm) high, 16-gauge steel hinged door secured by a steel quarter-turn latch.

### Vertical Wireway

A vertical wireway is provided in each modular MCC section. It is located on the right side of the section and extends the entire height of the MCC. Standard wireway width is 100mm (4 in).

The overall depth of the wireway is 300mm (12 in), providing a

cross-sectional area of 30000mm<sup>2</sup> (48 in<sup>2</sup>). An optional 200mm (8 in) wireway is also available if additional wire bending and working space is desired. Wires may be secured in place using fastening holes located in the structural frame.

Each wireway is provided with a full-height, 12-gauge steel door that is hinged and closed using three steel quarter-turn latches. The doors open 105° opposite of the unit doors for maximum accessibility. Door hinges are secured using self tapping screws and are easily removed.

Each vertical wireway is equipped with a clear, polycarbonate cover over the bus splices to allow for visual inspection. The cover can be easily removed during installation and maintenance.

# Technical Description

## Equipment Labeling

Each MCC lineup contains a Master Nameplate, typically located on the horizontal wireway door of the left most section.

Each MCC section contains a Section Nameplate, located on the vertical wireway door for modular sections and on the unit door for full height units. If the section is UL, CSA, or NOM listed, the Section Nameplate will carry the appropriate marking.

Each MCC unit will contain a Unit Information Label affixed to the inside of the unit door. If the unit is UL, CSA, or NOM listed, the Section Nameplate will carry the appropriate marking. Each unit will also contain a Unit Nameplate (Tag) which typically describes the load.

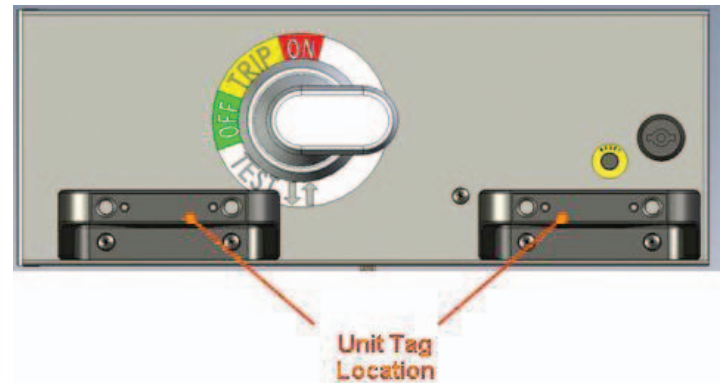
Master Nameplate

Section Nameplate

## Unit Tags

MCC units also have nameplates on the two handles of each unit containing additional unit information.

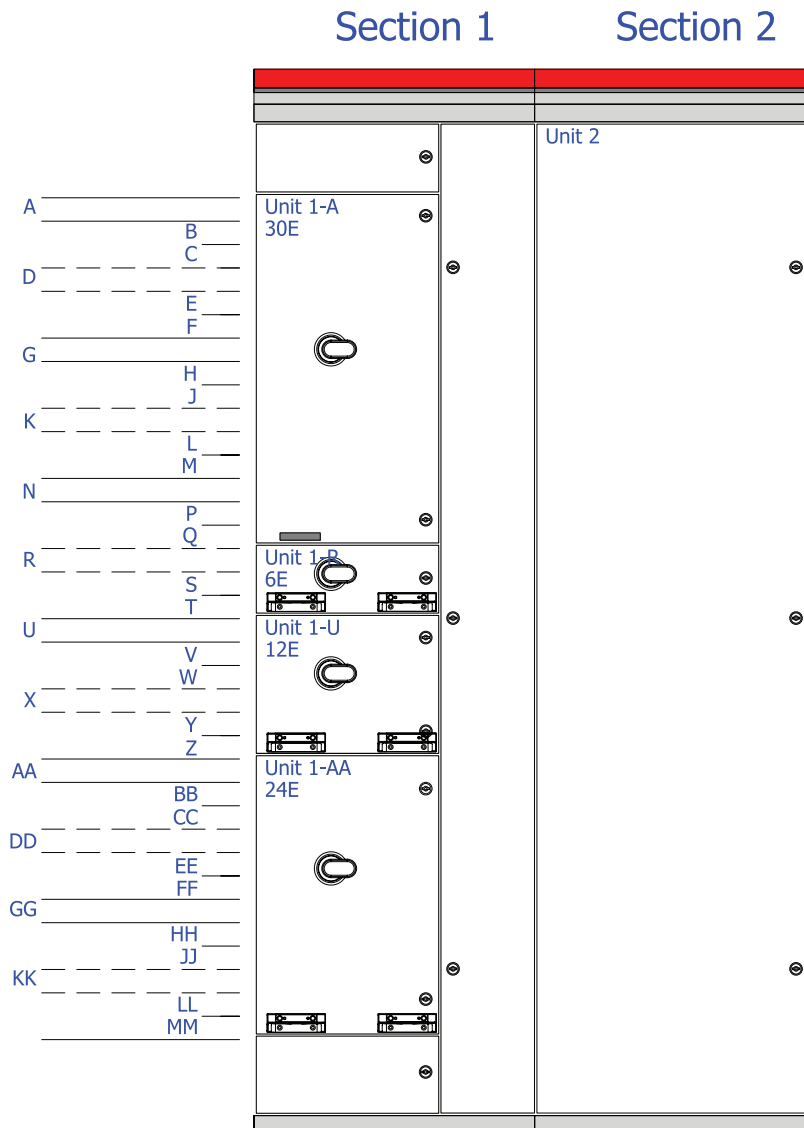
Unit Label



### Unit Location Designation

Each unit will have a corresponding unit location. The location is described by a two digit designation. The first character is

the section number, and the second is the upper most vertical location in which the unit is position.



# Technical Description

## NEMA-1A (gasketed)

The MNS-MCC standard enclosure is NEMA-1A (gasketed). The enclosures are deadfront, metal-enclosed structures. All front doors, side panels and rear panels or doors are painted using textured, electrostatic, powder-type paint. The enclosure is appropriate for installations with normal atmospheric conditions. It is intended for use primarily in areas with moderate dirt and contamination.

## Standard Features

- ANSI 61 textured paint color
- 4-inch vertical wireway
- Barriers between each section
- Removable, steel top plates over conduit entrance
- Gasketing on all doors
- Lifting eyes

## Available Options

- 8-inch vertical wireway
- Bottom plates

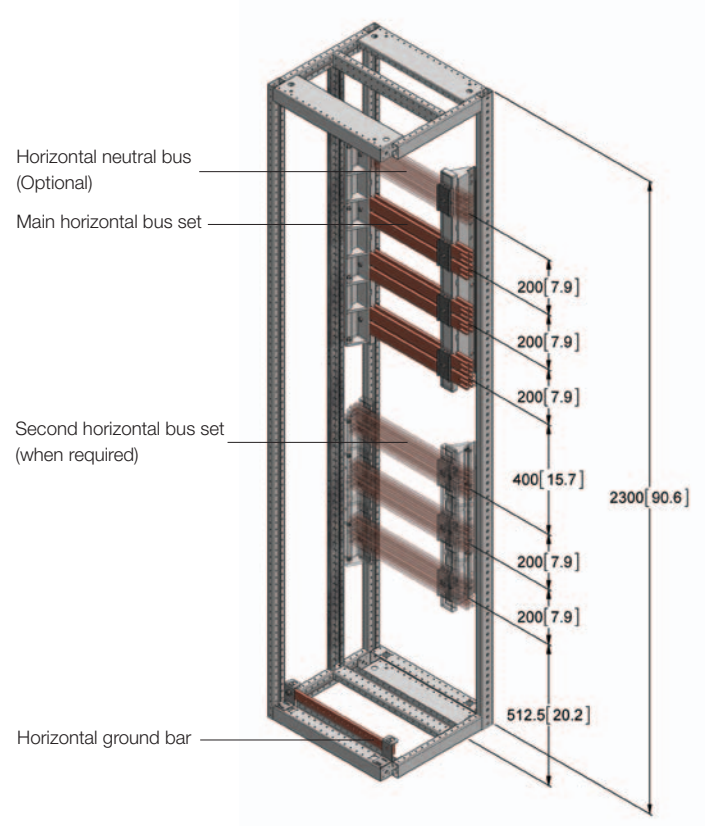


## Bus Bar System

The horizontal bus bar system is installed in the rear of the MCC, isolated from the front accessible areas. The bus bars are arranged Neutral, A, B, and C phase from top to bottom in each vertical section. For the larger ampacities, a second set of bus bars is installed in the lower portion of each section. Refer to the figures on the following page for additional information. The horizontal bus is secured in place by maintenance-free screw connectors. The horizontal bus bars of multi-section shipping splits are spliced at the factory and can be removed at your site if needed.

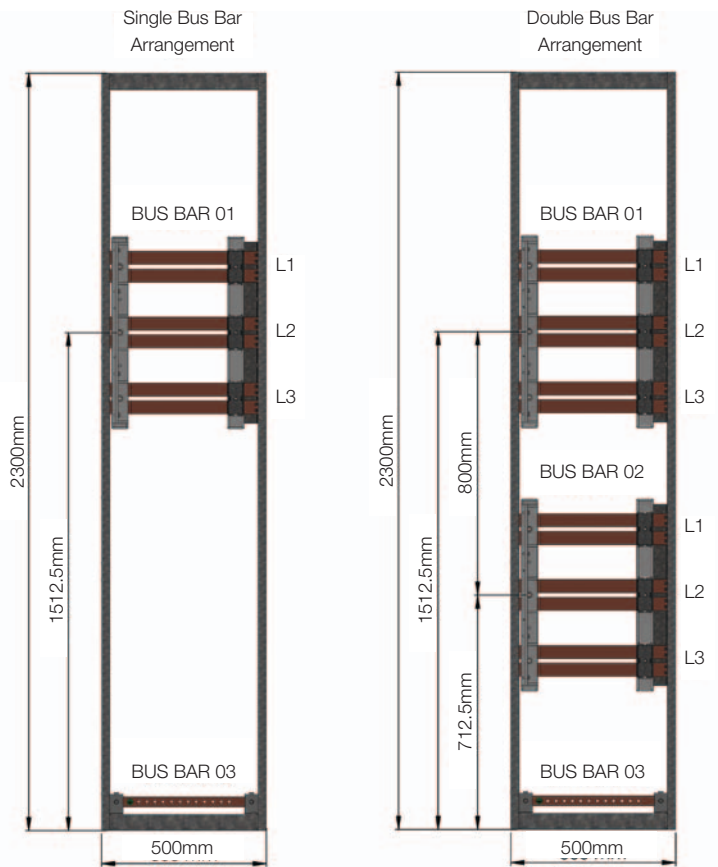
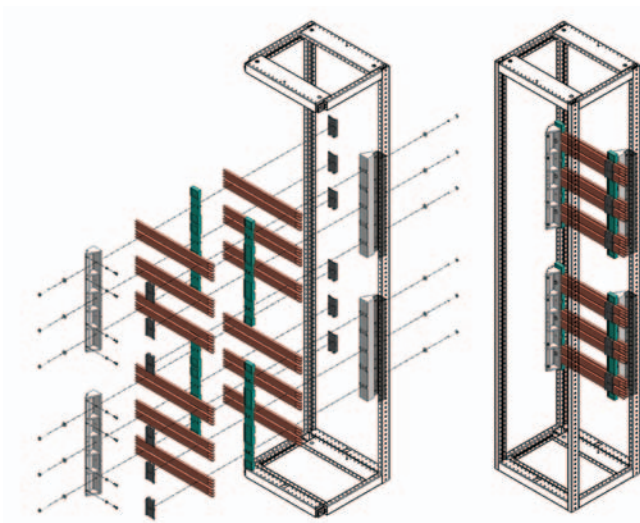
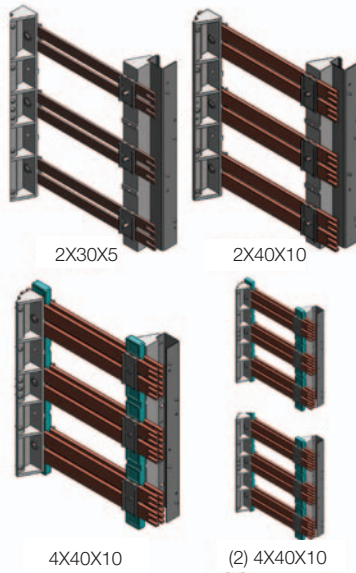
The bus bars are connected to the adjacent section at each end with shipping bus splice bar kits, are provided on the left side of each shipping split. The bus splice kits are accessible through the front side in the vertical wireway. The bus splice kits are secured by grade 5 hardware.

Main bus ampere ratings include: 800A, 1200A, 1600A, 2000A, 2500A, 3200A, and 4000A with bus bracing available up to 100kA max at 600V. Tin-plated bussing is standard; optional silver-plating is available.



# Technical Description

Depending on the amperage a combination of either 2, 4, or 8 (two of the four buses) are provided per section.



## Bus Bar Dimensions for Each Ampacity

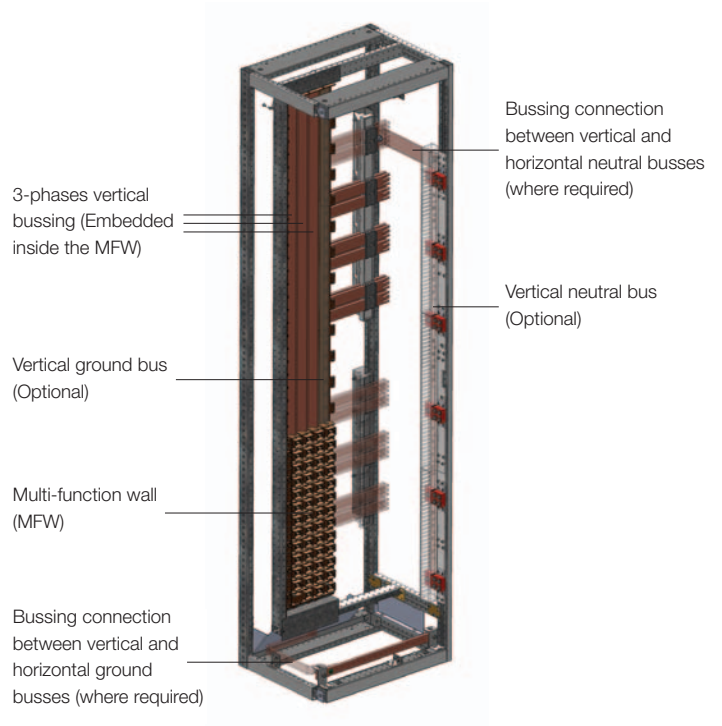
Horizontal bus ratings	Number of buses	Bars/Phase	Dimensions bars	Maximum operating temperature	Enclosure requirements	Bus bracing
800	1	2	30mm x 5mm	65°C	Not Ventilated	65 KA
1200	1	2	40mm x 10mm	65°C	Not Ventilated	65 KA
1600	1	4	40mm x 10mm	65°C	Not Ventilated	65 KA
2000	1	4	40mm x 10mm	65°C	Ventilated	65 KA
2000	2	8	40mm x 10mm	65°C	Not Ventilated	100 KA
2500	2	8	40mm x 10mm	65°C	Not Ventilated	100 KA
3200	2	8	40mm x 10mm	65°C	Ventilated	100 KA
4000	2	8	40mm x 10mm	65°C	Ventilated	100 KA

### Vertical Bus Bar

The vertical distribution bus bars run A, B, and C phase from left to right. The bars are used for distribution of main power to plug-in and withdrawable units. The distribution bars are silver plated, L-shaped copper bars and are embedded into the multi-function wall (MFW) made of insulating, nonflammable and non-hygroscopic material.

The MFW provides IP20 protection IP20 (protection against ingress of solid foreign objects equal or greater than 12.5 mm) and provides isolation between the main horizontal bus bar compartment and the front accessible areas of the MCC. The vertical distribution bus bars are available in ratings of 800A or 1600A.

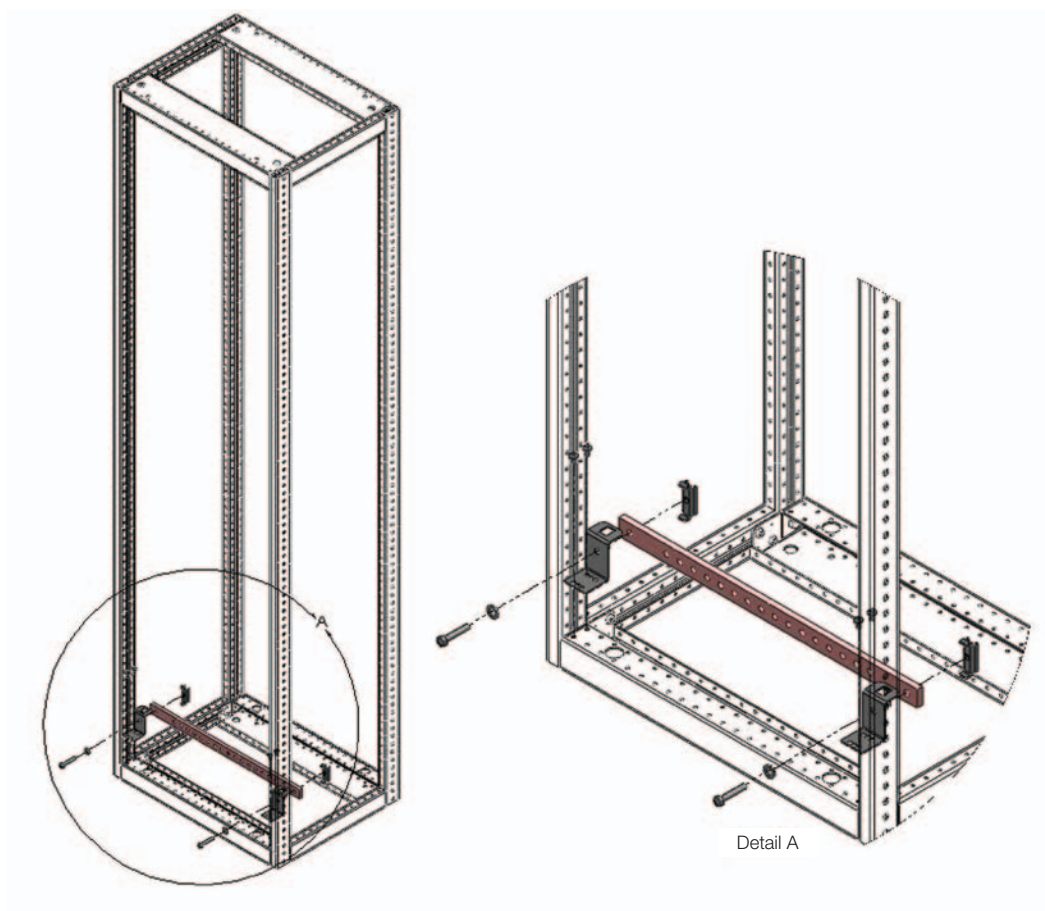
As an option, an 800A rated vertical neutral bus bar is available in the vertical wireway. This configuration requires the extended width wireway and includes a touchsafe protective cover.



# Technical Description

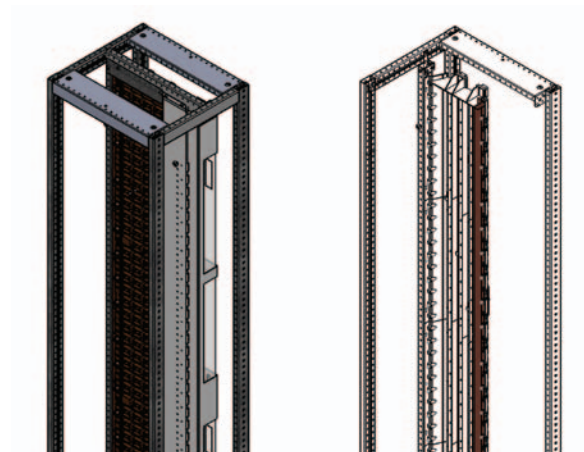
## Horizontal Ground Bus

A bare copper ground bar is located in the bottom horizontal wireway of each vertical section. The dimension of the bar is 30mm x 10mm and is rated for 400A. The bar is pre-drilled with ½” holes with a minimum of 5 holes per vertical section.



## Vertical Ground Bus

As an option, a vertical ground bus is available in the MFW to provide unit grounding via plug in contact. The vertical ground bus is solidly connected to the horizontal ground bus. The grounding stabs will make before the phase stabs when inserting. Conversely, the phase stabs will break before the ground stab when withdrawing.





# Mains and Feeders

## Main and Feeder Circuit Breakers

Molded Case (TMAX) and Air (EMAX) circuit breakers are available in MNS-MCC up to 3000A for main and feeder applications.

All TMAX series main and feeder units are 80% rated. All EMAX series main and feeder units are 100% rated.

## Mains Unit Selection 208-240V; 42kA

Amperes	System Type	Entry	Unit Size	Plug-In or Fixed	Incoming Device	Rating Plug
600	3W	TOP	24E	Plug in, single (sotax)	T6N600BW	-
		BOTTOM	24E	Plug in, single (sotax)	T6N600BW	-
	4W (n/a)	-	-	-	-	-
		-	-	-	-	-
1200	3W	TOP	85E	Fixed 500mm	T7S1200BW	-
		BOTTOM	85E	Fixed 500mm	T7S1200BW	-
	4W	TOP	85E	Fixed 600mm	T7S1200BW	-
		BOTTOM	85E	Fixed 600mm	T7S1200BW	-
1200	3W	TOP	85E	Fixed 600mm	E2B-A 16 (F)	1SDA058224R0001
		BOTTOM	85E	Fixed 600mm	E2B-A 16 (F)	1SDA058224R0001
	4W	TOP	85E	Fixed 800mm	E2B-A 16 (F)	1SDA058224R0001
		BOTTOM	85E	Fixed 800mm	E2B-A 16 (F)	1SDA058224R0001
1600	3W	TOP	85E	Fixed 600mm	E3V-A 16 (F)	-
		BOTTOM	85E	Fixed 600mm	E3V-A 16 (F)	-
	4W	TOP	85E	Fixed 800mm	E3V-A 16 (F)	-
		BOTTOM	85E	Fixed 800mm	E3V-A 16 (F)	-
2000	3W	TOP	85E	Fixed 600mm	E3N-A 20 (F)	-
		BOTTOM	85E	Fixed 600mm	E3N-A 20 (F)	-
	4W	TOP	85E	Fixed 800mm	E3N-A 20 (F)	-
		BOTTOM	85E	Fixed 800mm	E3N-A 20 (F)	-
2500	3W	TOP	85E	Fixed 800mm	E4S-A 32 (F)	1SDA058228R0001
		BOTTOM	85E	Fixed 800mm	E4S-A 32 (F)	1SDA058228R0001
	4W	TOP	85E	Fixed 1000mm	E4S-A 32 (F)	1SDA058228R0001
		BOTTOM	85E	Fixed 1000mm	E4S-A 32 (F)	1SDA058228R0001
3000	3W	TOP	85E	Fixed 1000mm	E6H-A 40 (F)	1SDA058229R0001
		BOTTOM	85E	Fixed 1000mm	E6H-A 40 (F)	1SDA058229R0001
	4W	TOP	85E	Fixed 1200mm	E6H-A 40 (F)	1SDA058229R0001
		BOTTOM	85E	Fixed 1200mm	E6H-A 40 (F)	1SDA058229R0001

208-240V; 65kA

Amperes	System Type	Entry	Unit Size	Plug-In or Fixed	Incoming Device	Rating Plug
600	3W	TOP	24E	Plug in, single (sotax)	T6N600BW	-
		BOTTOM	24E	Plug in, single (sotax)	T6N600BW	-
	4W (n/a)	-	-	-	-	-
		-	-	-	-	-
1200	3W	TOP	85E	Fixed 500mm	T7S1200BW	-
		BOTTOM	85E	Fixed 500mm	T7S1200BW	-
	4W	TOP	85E	Fixed 600mm	T7S1200BW	-
		BOTTOM	85E	Fixed 600mm	T7S1200BW	-
1200	3W	TOP	85E	Fixed 600mm	E2N-A 16 (F)	1SDA058224R0001
		BOTTOM	85E	Fixed 600mm	E2N-A 16 (F)	1SDA058224R0001
	4W	TOP	85E	Fixed 800mm	E2N-A 16 (F)	1SDA058224R0001
		BOTTOM	85E	Fixed 800mm	E2N-A 16 (F)	1SDA058224R0001
1600	3W	TOP	85E	Fixed 600mm	E3V-A 16 (F)	-
		BOTTOM	85E	Fixed 600mm	E3V-A 16 (F)	-
	4W	TOP	85E	Fixed 800mm	E3V-A 16 (F)	-
		BOTTOM	85E	Fixed 800mm	E3V-A 16 (F)	-
2000	3W	TOP	85E	Fixed 600mm	E3N-A 20 (F)	-
		BOTTOM	85E	Fixed 600mm	E3N-A 20 (F)	-
	4W	TOP	85E	Fixed 800mm	E3N-A 20 (F)	-
		BOTTOM	85E	Fixed 800mm	E3N-A 20 (F)	-
2500	3W	TOP	85E	Fixed 800mm	E4S-A 32 (F)	1SDA058228R0001
		BOTTOM	85E	Fixed 800mm	E4S-A 32 (F)	1SDA058228R0001
	4W	TOP	85E	Fixed 1000mm	E4S-A 32 (F)	1SDA058228R0001
		BOTTOM	85E	Fixed 1000mm	E4S-A 32 (F)	1SDA058228R0001
3000	3W	TOP	85E	Fixed 1000mm	E6H-A 40 (F)	1SDA058229R0001
		BOTTOM	85E	Fixed 1000mm	E6H-A 40 (F)	1SDA058229R0001
	4W	TOP	85E	Fixed 1200mm	E6H-A 40 (F)	1SDA058229R0001
		BOTTOM	85E	Fixed 1200mm	E6H-A 40 (F)	1SDA058229R0001

208-240V; 100kA

Amperes	System Type	Entry	Unit Size	Plug-In or Fixed	Incoming Device	Rating Plug
600	3W	TOP	24E	Plug in, single (sotax)	T6S600BW	-
		BOTTOM	24E	Plug in, single (sotax)	T6S600BW	-
	4W (n/a)	-	-	-	-	-
		-	-	-	-	-
1200	3W	TOP	85E	Fixed 600mm	E3V-A 16 (F)	-
		BOTTOM	85E	Fixed 600mm	E3V-A 16 (F)	-
	4W	TOP	85E	Fixed 800mm	E3V-A 16 (F)	-
		BOTTOM	85E	Fixed 800mm	E3V-A 16 (F)	-
2000	3W	TOP	85E	Fixed 600mm	E3V-A 20 (F)	-
		BOTTOM	85E	Fixed 600mm	E3V-A 20 (F)	-
	4W	TOP	85E	Fixed 800mm	E3V-A 20 (F)	-
		BOTTOM	85E	Fixed 800mm	E3V-A 20 (F)	-
2500	3W	TOP	85E	Fixed 800mm	E4V-A 32 (F)	1SDA058228R0001
		BOTTOM	85E	Fixed 800mm	E4V-A 32 (F)	1SDA058228R0001
	4W	TOP	85E	Fixed 1000mm	E4V-A 32 (F)	1SDA058228R0001
		BOTTOM	85E	Fixed 1000mm	E4V-A 32 (F)	1SDA058228R0001
3000	3W	TOP	85E	Fixed 1000mm	E6V-A 40 (F)	1SDA058229R0001
		BOTTOM	85E	Fixed 1000mm	E6V-A 40 (F)	1SDA058229R0001
	4W	TOP	85E	Fixed 1200mm	E6V-A 40 (F)	1SDA058229R0001
		BOTTOM	85E	Fixed 1200mm	E6V-A 40 (F)	1SDA058229R0001

480V; 42kA

Amperes	System Type	Entry	Unit Size	Plug-In or Fixed	Incoming Device	Rating Plug
600	3W	TOP	24E	Plug in, single (sotax)	T6S600BW	-
		BOTTOM	24E	Plug in, single (sotax)	T6S600BW	-
	4W (n/a)	-	-	-	-	-
1200	3W	TOP	85E	Fixed 500mm	T7S1200BW	-
		BOTTOM	85E	Fixed 500mm	T7S1200BW	-
	4W	TOP	85E	Fixed 600mm	T7S1200BW	-
		BOTTOM	85E	Fixed 600mm	T7S1200BW	-
1200	3W	TOP	85E	Fixed 600mm	E2B-A 16 (F)	1SDA058224R0001
		BOTTOM	85E	Fixed 600mm	E2B-A 16 (F)	1SDA058224R0001
	4W	TOP	85E	Fixed 800mm	E2B-A 16 (F)	1SDA058224R0001
		BOTTOM	85E	Fixed 800mm	E2B-A 16 (F)	1SDA058224R0001
1600	3W	TOP	85E	Fixed 600mm	E3V-A 16 (F)	-
		BOTTOM	85E	Fixed 600mm	E3V-A 16 (F)	-
	4W	TOP	85E	Fixed 800mm	E3V-A 16 (F)	-
		BOTTOM	85E	Fixed 800mm	E3V-A 16 (F)	-
2000	3W	TOP	85E	Fixed 600mm	E3N-A 20 (F)	-
		BOTTOM	85E	Fixed 600mm	E3N-A 20 (F)	-
	4W	TOP	85E	Fixed 800mm	E3N-A 20 (F)	-
		BOTTOM	85E	Fixed 800mm	E3N-A 20 (F)	-
2500	3W	TOP	85E	Fixed 800mm	E4S-A 32 (F)	1SDA058228R0001
		BOTTOM	85E	Fixed 800mm	E4S-A 32 (F)	1SDA058228R0001
	4W	TOP	85E	Fixed 1000mm	E4S-A 32 (F)	1SDA058228R0001
		BOTTOM	85E	Fixed 1000mm	E4S-A 32 (F)	1SDA058228R0001
3000	3W	TOP	85E	Fixed 1000mm	E6H-A 40 (F)	1SDA058229R0001
		BOTTOM	85E	Fixed 1000mm	E6H-A 40 (F)	1SDA058229R0001
	4W	TOP	85E	Fixed 1200mm	E6H-A 40 (F)	1SDA058229R0001
		BOTTOM	85E	Fixed 1200mm	E6H-A 40 (F)	1SDA058229R0001

480V; 65kA

Amperes	System Type	Entry	Unit Size	Plug-In or Fixed	Incoming Device	Rating Plug
600	3W	TOP	24E	Plug in, single (sotax)	T6H600BW	-
		BOTTOM	24E	Plug in, single (sotax)	T6H600BW	-
	4W (n/a)	-	-	-	-	-
		-	-	-	-	-
1200	3W	TOP	85E	Fixed 500mm	T7H1200BW	-
		BOTTOM	85E	Fixed 500mm	T7H1200BW	-
	4W	TOP	85E	Fixed 600mm	T7H1200BW	-
		BOTTOM	85E	Fixed 600mm	T7H1200BW	-
1200	3W	TOP	85E	Fixed 600mm	E2S-A 16 (F)	1SDA058224R0001
		BOTTOM	85E	Fixed 600mm	E2S-A 16 (F)	1SDA058224R0001
	4W	TOP	85E	Fixed 800mm	E2S-A 16 (F)	1SDA058224R0001
		BOTTOM	85E	Fixed 800mm	E2S-A 16 (F)	1SDA058224R0001
1600	3W	TOP	85E	Fixed 600mm	E3V-A 16 (F)	-
		BOTTOM	85E	Fixed 600mm	E3V-A 16 (F)	-
	4W	TOP	85E	Fixed 800mm	E3V-A 16 (F)	-
		BOTTOM	85E	Fixed 800mm	E3V-A 16 (F)	-
2000	3W	TOP	85E	Fixed 600mm	E3S-A 20 (F)	-
		BOTTOM	85E	Fixed 600mm	E3S-A 20 (F)	-
	4W	TOP	85E	Fixed 800mm	E3S-A 20 (F)	-
		BOTTOM	85E	Fixed 800mm	E3S-A 20 (F)	-
2500	3W	TOP	85E	Fixed 800mm	E4S-A 32 (F)	1SDA058228R0001
		BOTTOM	85E	Fixed 800mm	E4S-A 32 (F)	1SDA058228R0001
	4W	TOP	85E	Fixed 1000mm	E4S-A 32 (F)	1SDA058228R0001
		BOTTOM	85E	Fixed 1000mm	E4S-A 32 (F)	1SDA058228R0001
3000	3W	TOP	85E	Fixed 1000mm	E6H-A 40 (F)	1SDA058229R0001
		BOTTOM	85E	Fixed 1000mm	E6H-A 40 (F)	1SDA058229R0001
	4W	TOP	85E	Fixed 1200mm	E6H-A 40 (F)	1SDA058229R0001
		BOTTOM	85E	Fixed 1200mm	E6H-A 40 (F)	1SDA058229R0001

480V; 100kA

Amperes	System Type	Entry	Unit Size	Plug-In or Fixed	Incoming Device	Rating Plug
600	3W	TOP	24E	Plug in, single (sotax)	T6L600BW	-
		BOTTOM	24E	Plug in, single (sotax)	T6L600BW	-
	4W (n/a)	-	-	-	-	-
		-	-	-	-	-
1200	3W	TOP	85E	Fixed 600mm	E3V-A 16 (F)	-
		BOTTOM	85E	Fixed 600mm	E3V-A 16 (F)	-
	4W	TOP	85E	Fixed 800mm	E3V-A 16 (F)	-
		BOTTOM	85E	Fixed 800mm	E3V-A 16 (F)	-
2000	3W	TOP	85E	Fixed 600mm	E3V-A 20 (F)	-
		BOTTOM	85E	Fixed 600mm	E3V-A 20 (F)	-
	4W	TOP	85E	Fixed 800mm	E3V-A 20 (F)	-
		BOTTOM	85E	Fixed 800mm	E3V-A 20 (F)	-
2500	3W	TOP	85E	Fixed 800mm	E4V-A 32 (F)	1SDA058228R0001
		BOTTOM	85E	Fixed 800mm	E4V-A 32 (F)	1SDA058228R0001
	4W	TOP	85E	Fixed 1000mm	E4V-A 32 (F)	1SDA058228R0001
		BOTTOM	85E	Fixed 1000mm	E4V-A 32 (F)	1SDA058228R0001
3000	3W	TOP	85E	Fixed 1000mm	E6V-A 40 (F)	1SDA058229R0001
		BOTTOM	85E	Fixed 1000mm	E6V-A 40 (F)	1SDA058229R0001
	4W	TOP	85E	Fixed 1200mm	E6V-A 40 (F)	1SDA058229R0001
		BOTTOM	85E	Fixed 1200mm	E6V-A 40 (F)	1SDA058229R0001

600V; 42kA

Amperes	System Type	Entry	Unit Size	Plug-In or Fixed	Incoming Device	Rating Plug
600	3W	TOP	24E	Plug in, single (sotax)	T6L600BW	-
		BOTTOM	24E	Plug in, single (sotax)	T6L600BW	-
	4W (n/a)	-	-	-	-	-
		-	-	-	-	-
1200	3W	TOP	85E	Fixed 500mm	T7H1200BW	-
		BOTTOM	85E	Fixed 500mm	T7H1200BW	-
	4W	TOP	85E	Fixed 600mm	T7H1200BW	-
		BOTTOM	85E	Fixed 600mm	T7H1200BW	-
1200	3W	TOP	85E	Fixed 600mm	E2B-A 16 (F)	1SDA058224R0001
		BOTTOM	85E	Fixed 600mm	E2B-A 16 (F)	1SDA058224R0001
	4W	TOP	85E	Fixed 800mm	E2B-A 16 (F)	1SDA058224R0001
		BOTTOM	85E	Fixed 800mm	E2B-A 16 (F)	1SDA058224R0001
2000	3W	TOP	85E	Fixed 600mm	E3N-A 20 (F)	-
		BOTTOM	85E	Fixed 600mm	E3N-A 20 (F)	-
	4W	TOP	85E	Fixed 800mm	E3N-A 20 (F)	-
		BOTTOM	85E	Fixed 800mm	E3N-A 20 (F)	-
2500	3W	TOP	85E	Fixed 1000mm	E6H-A 40 (F)	1SDA058228R0001
		BOTTOM	85E	Fixed 1000mm	E6H-A 40 (F)	1SDA058228R0001
	4W	TOP	85E	Fixed 1200mm	E6H-A 40 (F)	1SDA058228R0001
		BOTTOM	85E	Fixed 1200mm	E6H-A 40 (F)	1SDA058228R0001
3000	3W	TOP	85E	Fixed 1000mm	E6H-A 40 (F)	1SDA058229R0001
		BOTTOM	85E	Fixed 1000mm	E6H-A 40 (F)	1SDA058229R0001
	4W	TOP	85E	Fixed 1200mm	E6H-A 40 (F)	1SDA058229R0001
		BOTTOM	85E	Fixed 1200mm	E6H-A 40 (F)	1SDA058229R0001

600V; 65kA

Amperes	System Type	Entry	Unit Size	Plug-In or Fixed	Incoming Device	Rating Plug
1200	3W	TOP	85E	Fixed 500mm	T7L1200BW	-
		BOTTOM	85E	Fixed 500mm	T7L1200BW	-
	4W	TOP	85E	Fixed 600mm	T7L1200BW	-
		BOTTOM	85E	Fixed 600mm	T7L1200BW	-
1200	3W	TOP	85E	Fixed 600mm	E2S-A 16 (F)	1SDA058224R0001
		BOTTOM	85E	Fixed 600mm	E2S-A 16 (F)	1SDA058224R0001
	4W	TOP	85E	Fixed 800mm	E2S-A 16 (F)	1SDA058224R0001
		BOTTOM	85E	Fixed 800mm	E2S-A 16 (F)	1SDA058224R0001
2000	3W	TOP	85E	Fixed 600mm	E3S-A 20 (F)	-
		BOTTOM	85E	Fixed 600mm	E3S-A 20 (F)	-
	4W	TOP	85E	Fixed 800mm	E3S-A 20 (F)	-
		BOTTOM	85E	Fixed 800mm	E3S-A 20 (F)	-
2500	3W	TOP	85E	Fixed 1000mm	E6H-A 40 (F)	1SDA058228R0001
		BOTTOM	85E	Fixed 1000mm	E6H-A 40 (F)	1SDA058228R0001
	4W	TOP	85E	Fixed 1200mm	E6H-A 40 (F)	1SDA058228R0001
		BOTTOM	85E	Fixed 1200mm	E6H-A 40 (F)	1SDA058228R0001
3000	3W	TOP	85E	Fixed 1000mm	E6H-A 40 (F)	1SDA058229R0001
		BOTTOM	85E	Fixed 1000mm	E6H-A 40 (F)	1SDA058229R0001
	4W	TOP	85E	Fixed 1200mm	E6H-A 40 (F)	1SDA058229R0001
		BOTTOM	85E	Fixed 1200mm	E6H-A 40 (F)	1SDA058229R0001

## 600V; 100kA

Amperes	System Type	Entry	Unit Size	Plug-In or Fixed	Incoming Device	Rating Plug
2500	3W	TOP	85E	Fixed 1000mm	E6V-A 40 (F)	1SDA058228R0001
		BOTTOM	85E	Fixed 1000mm	E6V-A 40 (F)	1SDA058228R0001
	4W	TOP	85E	Fixed 1200mm	E6V-A 40 (F)	1SDA058228R0001
		BOTTOM	85E	Fixed 1200mm	E6V-A 40 (F)	1SDA058228R0001
3000	3W	TOP	85E	Fixed 1000mm	E6V-A 40 (F)	1SDA058229R0001
		BOTTOM	85E	Fixed 1000mm	E6V-A 40 (F)	1SDA058229R0001
	4W	TOP	85E	Fixed 1200mm	E6V-A 40 (F)	1SDA058229R0001
		BOTTOM	85E	Fixed 1200mm	E6V-A 40 (F)	1SDA058229R0001

## Feeder Unit Selection

### 208-240V; 42-65kA

Amperes	Unit Size	Disconnect	Configuration (withdrawable/fixed)
15	12E	T2S015TW	Withdrawable-CCU300
	6E		Withdrawable-CCU40
20	12E	T2S020TW	Withdrawable-CCU300
	6E		Withdrawable-CCU40
25	12E	T2S025TW	Withdrawable-CCU300
	6E		Withdrawable-CCU40
30	12E	T2S030TW	Withdrawable-CCU300
	6E		Withdrawable-CCU40
35	12E	T2S035TW	Withdrawable-CCU300
	6E		Withdrawable-CCU40
40	12E	T2S040TW	Withdrawable-CCU300
50	12E	T2S050TW	Withdrawable-CCU300
60	12E	T2S060TW	Withdrawable-CCU300
70	12E	T2S070TW	Withdrawable-CCU300
80	12E	T2S080TW	Withdrawable-CCU300
90	12E	T2S090TW	Withdrawable-CCU300
100	12E	T2S100TW	Withdrawable-CCU300
125	12E	T4N125TW	Withdrawable-CCU300
150	24E	T4N150TW	Withdrawable-CCU300
200	24E	T4N200TW	Withdrawable-CCU300
250	24E	T4N250TW	Withdrawable-CCU300
300	24E	T5N300TW	Withdrawable-CCU300
400	24E	T5N400TW	Withdrawable-CCU300

### 208-240V; 100kA

Amperes	Unit Size	Disconnect	Configuration (withdrawable/fixed)
15	12E	T2H015TW	Withdrawable-CCU300
	6E		Withdrawable-CCU40
20	12E	T2H020TW	Withdrawable-CCU300
	6E		Withdrawable-CCU40
25	12E	T2H025TW	Withdrawable-CCU300
	6E		Withdrawable-CCU40
30	12E	T2H030TW	Withdrawable-CCU300
	6E		Withdrawable-CCU40
35	12E	T2H035TW	Withdrawable-CCU300
	6E		Withdrawable-CCU40
40	12E	T2H040TW	Withdrawable-CCU300
50	12E	T2H050TW	Withdrawable-CCU300
60	12E	T2H060TW	Withdrawable-CCU300
70	12E	T2H070TW	Withdrawable-CCU300
80	12E	T2H080TW	Withdrawable-CCU300
90	12E	T2H090TW	Withdrawable-CCU300
100	12E	T2H100TW	Withdrawable-CCU300
125	12E	T4S125TW	Withdrawable-CCU300
150	24E	T4S150TW	Withdrawable-CCU300
200	24E	T4S200TW	Withdrawable-CCU300
250	24E	T4S250TW	Withdrawable-CCU300
300	24E	T5S300TW	Withdrawable-CCU300
400	24E	T5S400TW	Withdrawable-CCU300

480V; 42-65kA

Amperes	Unit Size	Disconnect	Configuration (withdrawable/fixed)
15	12E	T2H015TW	Withdrawable-CCU300
	6E		Withdrawable-CCU40
20	12E	T2H020TW	Withdrawable-CCU300
	6E		Withdrawable-CCU40
25	12E	T2H025TW	Withdrawable-CCU300
	6E		Withdrawable-CCU40
30	12E	T2H030TW	Withdrawable-CCU300
	6E		Withdrawable-CCU40
35	12E	T2H035TW	Withdrawable-CCU300
	6E		Withdrawable-CCU40
40	12E	T2H040TW	Withdrawable-CCU300
50	12E	T2H050TW	Withdrawable-CCU300
60	12E	T2H060TW	Withdrawable-CCU300
70	12E	T2H070TW	Withdrawable-CCU300
80	12E	T2H080TW	Withdrawable-CCU300
90	12E	T2H090TW	Withdrawable-CCU300
100	12E	T2H100TW	Withdrawable-CCU300
125	12E	T4S125TW	Withdrawable-CCU300
150	24E	T4S150TW	Withdrawable-CCU300
200	24E	T4S200TW	Withdrawable-CCU300
250	24E	T4S250TW	Withdrawable-CCU300
300	24E	T5S300TW	Withdrawable-CCU300
400	24E	T5S400TW	Withdrawable-CCU300

480V; 100kA

Amperes	Unit Size	Disconnect	Configuration (withdrawable/fixed)
20	12E	T4L020TW	Withdrawable-CCU300
30	12E	T4L030TW	Withdrawable-CCU300
40	12E	T4L040TW	Withdrawable-CCU300
50	12E	T4L050TW	Withdrawable-CCU300
80	12E	T4L080TW	Withdrawable-CCU300
100	12E	T4L100TW	Withdrawable-CCU300
125	12E	T4L125TW	Withdrawable-CCU300
150	24E	T4L150TW	Withdrawable-CCU300
200	24E	T4L200TW	Withdrawable-CCU300
250	24E	T4L250TW	Withdrawable-CCU300
300	24E	T5L300TW	Withdrawable-CCU300
400	24E	T5L400TW	Withdrawable-CCU300

600V; 25ka, 42kA, 65kA

Amperes	Unit Size	Disconnect	Configuration (withdrawable/fixed)
20	12E	T4L020TW	Withdrawable-CCU300
30	12E	T4L030TW	Withdrawable-CCU300
40	12E	T4L040TW	Withdrawable-CCU300
50	12E	T4L050TW	Withdrawable-CCU300
80	12E	T4L080TW	Withdrawable-CCU300
100	12E	T4L100TW	Withdrawable-CCU300
125	12E	T4L125TW	Withdrawable-CCU300
150	24E	T4L150TW	Withdrawable-CCU300
200	24E	T4L200TW	Withdrawable-CCU300
250	24E	T4L250TW	Withdrawable-CCU300
300	24E	T5L300TW	Withdrawable-CCU300
400	24E	T5L400TW	Withdrawable-CCU300

## Main Lug Only Units

Main Lug Only (MLO) units are available in a plug in unit design for 800A and 1000A or a fixed mounted section for 1200-4000A. Refer to the selection tables for further detail.

## Fixed Mount Main Lugs

Nominal Current	System Type	SCCR	Entry	Unit Size	Plug-In or Fixed
800-1200	3W	65	TOP	85E	Fixed 500mm
			BOTTOM	85E	Fixed 500mm
	4W		TOP	85E	Fixed 600mm
			BOTTOM	85E	Fixed 600mm
1600	3W	65	TOP	85E	Fixed 600mm
			BOTTOM	85E	Fixed 600mm
	4W		TOP	85E	Fixed 800mm
			BOTTOM	85E	Fixed 800mm
2000	3W	65	TOP	85E	Fixed 600mm
			BOTTOM	85E	Fixed 600mm
	4W		TOP	85E	Fixed 800mm
			BOTTOM	85E	Fixed 800mm
2000-2500	3W	100	TOP	85E	Fixed 600mm
			BOTTOM	85E	Fixed 600mm
	4W		TOP	85E	Fixed 800mm
			BOTTOM	85E	Fixed 800mm
3200-4000	3W	100	TOP	85E	Fixed 600mm
			BOTTOM	85E	Fixed 600mm
	4W		TOP	85E	Fixed 800mm
			BOTTOM	85E	Fixed 800mm

## Plug-In Main Lugs

Nominal Current	System Type	SCCR	Entry	Unit Size	Plug-In or Fixed
800	3W	65	TOP	18E	Plug in, single (sotax)
			BOTTOM		Plug in, single (sotax)
1000	3W	65	TOP	24E	Plug in, double (sotax)
			BOTTOM		Plug in, double (sotax)



# Motor Starters

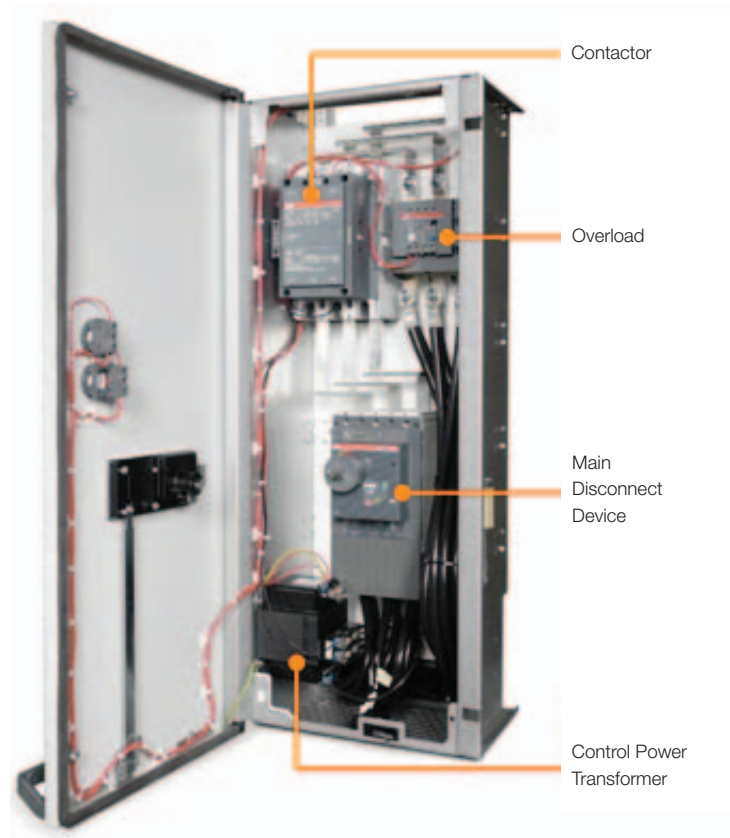
## Combination Motor Starter Units

The MNS-MCC offers four types of combination starters: full-voltage non-reversing (FVNR), full-voltage reversing (FVR), two-speed one winding (2S1W), and two-speed two winding (2S2W). Depending on the load requirements, combination starters are available in withdrawable and fixed mounted units. Refer to the selection tables on pages 34-39 for additional detail.

Each combination starter is provided with a combination of the following:

- An ABB disconnecting means
- An ABB A-line or AF contactor
- An ABB thermal overload or electronic overload protection
- An ABB control power transformer for 120VAC power

Additional accessories may be provided for monitoring and control.



Combination Motor Starter

Combination Starter Selection – 208 240V 42-65kA

Nema Size	HP (Max)	Type	Size (Min)	FLA (Max)	Disconnect	Contactor	Overload Relay	CPT
00	0.5	FVNR	6E	2.4	T2S015TW	A9N00-30-10-84	E16DU6.3-10/TA25DU3.1/UMC-FBP(1)	T4045SF1/T4050PSF1
		FVR	18E					T4050PSF1
		2S2W	n/a					n/a
		2S1W	n/a					n/a
00	0.75	FVNR	6E	3.5	T2S015TW	A9N00-30-10-84	E16DU6.3-10/TA25DU4.0/UMC-FBP(1)	T4045SF1/T4050PSF1
		FVR	18E					T4050PSF1
		2S2W	n/a					n/a
		2S1W	n/a					n/a
00	1	FVNR	6E	4.6	T2S015TW	A9N00-30-10-84	E16DU6.3-10/TA25DU5.0/TA25DU6.5/UMC-FBP(1)	T4045SF1/T4050PSF1
		FVR	18E					T4050PSF1
		2S2W	n/a					n/a
		2S1W	n/a					n/a
00	1.5	FVNR	12E	6.6	T2S015TW	A9N00-30-10-84	E16DU18.9-10/TA25DU8.5/UMC-FBP(1)	T4045SF1/T4050PSF1
		FVR	18E					T4050PSF1
		2S2W	n/a					n/a
		2S1W	n/a					n/a
0	2	FVNR	6E	7.5	T2S025E5W	A16N0-30-10-84	E16DU18.9-10/TA25DU8.5/UMC-FBP(1)	T4045SF1/T4050PSF1
		FVR	18E					T4050PSF1
		2S2W	18E					T4050PSF1
		2S1W	18E					T4050PSF1
0	3	FVNR	6E	10.6	T2S025E5W	A16N0-30-10-84	E16DU18.9-10/TA25DU11/TA25DU14/UMC-FBP(1)	T4045SF1/T4050PSF1
		FVR	18E					T4050PSF1
		2S2W	18E					T4050PSF1
		2S1W	18E					T4050PSF1
1	5.0	FVNR	12E	16.8	T2S025E5W T2S060E5W	A26N1-30-10-84	E16DU18.9-10/TA25DU14/UMC-FBP(1) E16DU18.9-10/TA25DU14/UMC-FBP(1) E16DU18.9-10/TA25DU14/UMC-FBP(1) E16DU18.9-10/TA25DU19/UMC-FBP	T4050PSF1
		FVR	18E					
		2S2W	18E					
		2S1W	18E					
1	7.5	FVNR	12E	24.2	T2S060E5W	A26N1-30-10-84	E45DU30-10/E45DU45-10/TA25DU25/TA25DU32/UMC-FBP	T4050PSF1
		FVR	18E					
		2S2W	18E					
		2S1W	18E					
2	10	FVNR	12E	30.8	T2S060E5W	A50N2-30-11-84	E80DU80-10/TA75DU32/UMC-FBP E80DU80-10/TA75DU42/TA75DU32/UMC-FBP E80DU80-10/TA75DU42/TA75DU32/UMC-FBP E80DU80-10/TA75DU42/TA75DU32/UMC-FBP	T4075PSF1
		FVR	18E					
		2S2W	18E					
		2S1W	24E					
2	15	FVNR	18E	46.2	T2S100E5W	A75N3-30-11-84	E80DU80-10/TA75DU52/UMC-FBP	T4075PSF1
		FVR	18E					
		2S2W	24E					
		2S1W	24E					
3	20	FVNR	18E	60	T2S100E5W	A75N3-30-11-84	E80DU80-10/TA75DU63/TA75DU80/UMC-FBP	T4075PSF1
		FVR	18E					
		2S2W	24E					
		2S1W	24E					
3	25	FVNR	18E	75	T2S100E5W	A75N3-30-11-84	E80DU80-10/TA75DU80/UMC-FBP	T4075PSF1
		FVR	18E					
		2S2W	24E					
		2S1W	24E					
3	30	FVNR	18E	80	T4N150E5W	A75N3-30-11-84	E140DU140-10/TA110DU90/UMC-FBP E140DU140-10/TA110DU90/UMC-FBP E80DU800-10/TA110DU90/UMC-FBP E140DU140-10/TA110DU90/UMC-FBP	T4075PSF1
		FVR	18E					
		2S2W	24E					
		2S1W	30E					
4	30	FVNR	24E	88	T4N150E5W	A145N4-30-11-84	E200DU200-10/TA200DU110/UMC-FBP	T4150PSF1
		FVR	36E					
		2S2W	42E					
		2S1W	FULL					
4	40	FVNR	30E	115	T4N250E5W	A260N5-30-11-84	E320DU320-10/TA200DU110/TA200DU135/UMC-FBP	T4250PSF1
		FVR	42E					T4150PSF1
		2S2W	48E					T4150PSF1
		2S1W	FULL					T4150PSF1
5	50	FVNR	36E	143	T5N300E5W	A260N5-30-11-84	E320DU320-10/TA450DU185/UMC-FBP	T4250PSF1
		FVR	48E					
		2S2W	FULL					
		2S1W	FULL					
5	60	FVNR	36E	160	T5N300E5W	A260N5-30-11-84	E320DU320-10/TA450DU185/UMC-FBP	T4250PSF1
		FVR	48E					
		2S2W	FULL					
		2S1W	FULL					
5	75	FVNR	42E	211	T5N400E5W	AF460N6-3011-70	E500DU500-10/TA450DU235/UMC-FBP	T4250PSF1
		FVR	FULL					
		2S2W	FULL					
		2S1W	FULL					
6	100	FVNR	FULL	273	T6N600E5W	AF750N7-3011-70	E500DU500-10	T4250PSF1
		FVR	FULL					
		2S2W	FULL					
		2S1W	FULL					
6	125	FVNR	FULL	344	T6N600E5W	AF750N7-3011-70	E500DU500-10/UMC-FBP	T4250PSF1
		FVR	FULL					T4250PSF1
		2S2W	FULL					T4500PSF1
		2S1W	FULL					T4500PSF1
6	150	FVNR	FULL	396	T6N800E5W	AF750N7-3011-70	E500DU500-10/UMC-FBP	T4250PSF1
		FVR	FULL					T4500PSF1
		2S2W	FULL					T4500PSF1
		2S1W	FULL					T4500PSF1
6	200	FVNR	FULL	480	T6N800E5W	AF750N7-3011-70	E500DU500-10/UMC-FBP	T4250PSF1
		FVR	FULL					T4500PSF1
		2S2W	FULL					T4500PSF1
		2S1W	FULL					T4500PSF1

(1) NEMA 1 Contactor Minimum for UMC Overload Configurations

208 240 100kA

Nema Size	HP (Max)	Type	Size (Min)	FLA (Max)	Disconnect	Contactors	Overload Relay	CPT
00	0.5	FVNR	6E	2.4	T2H015TW	A9N00-30-10-84	E16DU6.3-10/TA25DU3.1/UMC-FBP(1)	T4045SF1/T4050PSF1
		FVR	18E					T4050PSF1
		2S2W	n/a					n/a
		2S1W	n/a					n/a
00	0.75	FVNR	6E	3.5	T2H015TW	A9N00-30-10-84	E16DU6.3-10/TA25DU4.0/UMC-FBP(1)	T4045SF1/T4050PSF1
		FVR	18E					T4050PSF1
		2S2W	n/a					n/a
		2S1W	n/a					n/a
00	1	FVNR	6E	4.6	T2H015TW	A9N00-30-10-84	E16DU6.3-10/TA25DU5.0/TA25DU6.5/UMC-FBP(1)	T4045SF1/T4050PSF1
		FVR	18E					T4050PSF1
		2S2W	n/a					n/a
		2S1W	n/a					n/a
00	1.5	FVNR	6E	6.6	T2H015TW	A9N00-30-10-84	E16DU18.9-10/TA25DU8.5/UMC-FBP(1)	T4045SF1/T4050PSF1
		FVR	18E					T4050PSF1
		2S2W	n/a					n/a
		2S1W	n/a					n/a
0	2	FVNR	6E	7.5	T2H025E5W	A16N0-30-10-84	E16DU18.9-10/TA25DU8.5/UMC-FBP(1)	T4045SF1/T4050PSF1
		FVR	18E					T4050PSF1
		2S2W	18E					T4050PSF1
		2S1W	18E					T4050PSF1
0	3	FVNR	6E	10.6	T2H025E5W	A16N0-30-10-84	E16DU18.9-10/TA25DU11/TA25DU14/UMC-FBP(1)	T4045SF1/T4050PSF1
		FVR	18E					T4050PSF1
		2S2W	18E					T4050PSF1
		2S1W	18E					T4050PSF1
1	5.0	FVNR	12E	16.8	T2H025E5W/T2H060E5W	A26N1-30-10-84	E16DU18.9-10/TA25DU19/UMC-FBP	T4050PSF1
		FVR	18E					
		2S2W	18E					
		2S1W	18E					
1	7.5	FVNR	12E	24.2	T2H060E5W	A26N1-30-10-84	E45DU30-10/E45DU45-10/TA25DU25/TA25DU32/UMC-FBP	T4050PSF1
		FVR	18E					
		2S2W	18E					
		2S1W	18E					
2	10	FVNR	12E	30.8	T2H060E5W	A50N2-30-11-84	E80DU80-10/TA75DU32/UMC-FBP E80DU80-10/TA75DU32/UMC-FBP E80DU80-10/TA75DU42/TA75DU32/UMC-FBP E80DU80-10/TA75DU42/TA75DU32/UMC-FBP	T4075PSF1
		FVR	18E					
		2S2W	18E					
		2S1W	24E					
2	15	FVNR	18E	46.2	T2H100E5W	A75N3-30-11-84	E80DU80-10/TA75DU52/UMC-FBP	T4075PSF1
		FVR	18E					
		2S2W	24E					
		2S1W	24E					
3	20	FVNR	18E	60	T2H100E5W	A75N3-30-11-84	E80DU80-10/TA75DU63/TA75DU80/UMC-FBP	T4075PSF1
		FVR	18E					
		2S2W	24E					
		2S1W	24E					
3	25	FVNR	18E	75	T2H100E5W/T2S100E5W	A75N3-30-11-84	E80DU80-10/TA75DU80/UMC-FBP	T4075PSF1
		FVR	18E					
		2S2W	24E					
		2S1W	24E					
3	30	FVNR	18E	80	T4S150E5W	A75N3-30-11-84	E140DU140-10/TA110DU90/UMC-FBP E140DU140-10/TA110DU90/UMC-FBP E80DU80-10/TA110DU90/UMC-FBP E140DU140-10/TA110DU90/UMC-FBP	T4075PSF1
		FVR	18E					
		2S2W	24E					
		2S1W	24E					
4	30	FVNR	24E	88	T4S150E5W	A145N4-30-11-84	E200DU200-10/TA200DU110/UMC-FBP	T4150PSF1
		FVR	36E					
		2S2W	42E					
		2S1W	FULL					
4	40	FVNR	30E	115	T4S250E5W	A260N5-30-11-84	E320DU320-10/TA200DU110/TA200DU135/UMC-FBP	T4250PSF1
		FVR	42E					T4150PSF1
		2S2W	48E					T4150PSF1
		2S1W	FULL					T4150PSF1
5	50	FVNR	36E	143	T5S300E5W/T5N300E5W	A260N5-30-11-84	E320DU320-10/TA450DU185/UMC-FBP	T4250PSF1
		FVR	48E					
		2S2W	FULL					
		2S1W	FULL					
5	60	FVNR	36E	160	T5S300E5W	A260N5-30-11-84	E320DU320-10/TA450DU185/UMC-FBP	T4250PSF1
		FVR	48E					
		2S2W	FULL					
		2S1W	FULL					
5	75	FVNR	42E	211	T5S400E5W	AF460N6-3011-70	E500DU500-10/TA450DU235/UMC-FBP	T4250PSF1
		FVR	FULL					
		2S2W	FULL					
		2S1W	FULL					
6	100	FVNR	FULL	273	T6S600E5W	AF750N7-3011-70	E500DU500-10	T4250PSF1
		FVR	FULL					
		2S2W	FULL					
		2S1W	FULL					
6	125	FVNR	FULL	344	T6S600E5W	AF750N7-3011-70	E500DU500-10/UMC-FBP	T4250PSF1
		FVR	FULL					T4250PSF1
		2S2W	FULL					T4500PSF1
		2S1W	FULL					T4500PSF1
6	150	FVNR	FULL	396	T6S800E5W	AF750N7-3011-70	E500DU500-10/UMC-FBP	T4250PSF1
		FVR	FULL					T4250PSF1
		2S2W	FULL					T4500PSF1
		2S1W	FULL					T4500PSF1
6	200	FVNR	FULL	480	T6S800E5W	AF750N7-3011-70	E500DU500-10/UMC-FBP	T4250PSF1
		FVR	FULL					T4250PSF1
		2S2W	FULL					T4500PSF1
		2S1W	FULL					T4500PSF1

(1) NEMA 1 Contactor Minimum for UMC Overload Configurations

480V 42-65kA

Nema Size	HP (Max)	Type	Size (Min)	FLA (Max)	Disconnect	Contactor	Overload Relay	CPT
5	125	FVNR	36E	156	T5H300E5W	A260N5-30-11-84	E320DU320-10/TA450DU185/UMC-FBP	T4250PSF1
		FVR	48E					
		2S2W 2S1W	FULL FULL					
	150	FVNR	42E	180	T5H300E5W	AF460N6-3011-70	E500DU500-10/TA450DU185/UMC-FBP	T4250PSF1
		FVR	FULL					
		2S2W 2S1W	FULL FULL					
	200	FVNR	42E	240	T5H400E5W	AF460N6-3011-70	E500DU500-10/TA450DU310/UMC-FBP	T4250PSF1
		FVR	FULL					
		2S2W 2S1W	FULL FULL					
6	250	FVNR	FULL	302	T6H600E5W/T6S600E5W	AF750N7-3011-70	E500DU500-10/UMC-FBP	T4250PSF1
		FVR	FULL					T4250PSF1
		2S2W 2S1W	FULL FULL					T4500PSF1
	300	FVNR	FULL	361	T6H800E5W/T6S800E5W T6H800E5W/T6S800E5W T6H800E5W/T6S800E5W T6H800E5W	AF750N7-3011-70	E500DU500-10/UMC-FBP	T4500PSF1
		FVR	FULL					T4250PSF1
		2S2W 2S1W	FULL FULL					T4500PSF1
	350	FVNR	FULL	414	T6H800E5W/T6S800E5W	AF750N7-3011-70	E500DU500-10/UMC-FBP	T4250PSF1
		FVR	FULL					T4250PSF1
		2S2W 2S1W	FULL FULL					T4500PSF1
	400	FVNR	FULL	477	T6H800E5W/T6S800E5W	AF750N7-3011-70	E500DU500-10/UMC-FBP	T4250PSF1
		FVR	FULL					T4250PSF1
		2S2W 2S1W	FULL FULL					T4500PSF1

(1) NEMA 1 Contactor Minimum for UMC Overload Configurations

480V 100kA

Nema Size	HP (Max)	Type	Size (Min)	FLA (Max)	Disconnect	Contactors	Overload Relay	CPT
1	7.5	FVNR	12E	11	T4L020TW	A26N1-30-10-84	E45DU30-10	T4050PSF1
		FVR	n/a					
		2S2W	18E					
	15	2S1W	n/a	21	T4L100E5W	A50N2-30-11-84	E45DU45-10/TA75DU25/UMC-FBP	T4075PSF1
		FVNR	12E					
		FVR	18E					
2	20	2S2W	24E	27	T4L100E5W	A50N2-30-11-84	E80DU80-10/TA75DU32/UMC-FBP	T4075PSF1
		2S1W	24E					
		FVNR	12E					
	25	FVR	18E	34	T4L100E5W	A50N2-30-11-84	E80DU80-10/TA75DU42/UMC-FBP	T4075PSF1
		2S2W	24E					
		2S1W	24E					
3	30	FVNR	12E	40	T4L100E5W	A75N3-30-11-84	E80DU80-10/TA75DU42/UMC-FBP	T4075PSF1
		FVR	18E					
		2S2W	24E					
	40	2S1W	24E	52	T4L100E5W	A75N3-30-11-84	E80DU80-10/TA75DU52/UMC-FBP E80DU80-10/TA75DU63/UMC-FBP E80DU80-10/TA75DU63/UMC-FBP	T4075PSF1
		FVNR	18E					
		FVR	24E					
4	50	2S2W	24E	65	T4L150E5W	A75N3-30-11-84	E80DU80-10/TA75DU80/UMC-FBP	T4075PSF1
		2S1W	24E					
		FVNR	18E					
	60	FVR	18E	77	T4L150E5W	A145N4-30-11-84	E200DU200-10/TA200DU90/UMC-FBP	T4150PSF1
		2S2W	42E					
		2S1W	FULL					
5	75	FVNR	24E	96	T4L150E5W	A145N4-30-11-84	E200DU200-10/TA200DU110/UMC-FBP	T4150PSF1
		FVR	36E					
		2S2W	42E					
	100	2S1W	FULL	124	T4L250E5W	A260N5-30-11-84	E320DU320-10/TA200DU150/UMC-FBP E320DU320-10/TA200DU135/UMC-FBP E320DU320-10/TA200DU150/UMC-FBP	T4250PSF1 T4150PSF1 T4150PSF1
		FVNR	30E					
		FVR	42E					
6	125	2S2W	48E	156	T5L300E5W	A260N5-30-11-84	E320DU320-10/TA450DU185/UMC-FBP	T4250PSF1
		2S1W	FULL					
		FVNR	36E					
	150	FVR	48E	180	T5L300E5W	AF460N6-3011-70	E500DU500-10/TA450DU185/UMC-FBP	T4250PSF1
		2S2W	FULL					
		2S1W	FULL					
7	200	FVNR	42E	240	T5L400E5W	AF460N6-3011-70	E500DU500-10/TA450DU310/UMC-FBP	T4250PSF1
		FVR	FULL					
		2S2W	FULL					
	250	2S1W	FULL	302	T6L600E5W	AF750N7-3011-70	E500DU500-10/UMC-FBP	T4250PSF1 T4250PSF1 T4500PSF1 T4500PSF1
		FVNR	FULL					
		FVR	FULL					
8	300	2S2W	FULL	361	T6L800E5W	AF750N7-3011-70	E500DU500-10/UMC-FBP	T4250PSF1 T4250PSF1 T4500PSF1 T4500PSF1
		2S1W	FULL					
		FVNR	FULL					
	350	FVR	FULL	414	T6L800E5W	AF750N7-3011-70	E500DU500-10/UMC-FBP	T4250PSF1 T4250PSF1 T4500PSF1 T4500PSF1
		2S2W	FULL					
		2S1W	FULL					
9	400	FVNR	FULL	477	T6L800E5W	AF750N7-3011-70	E500DU500-10/UMC-FBP	T4250PSF1 T4250PSF1 T4500PSF1 T4500PSF1
		FVR	FULL					
		2S2W	FULL					
		2S1W	FULL					

600V 25kA

Nema Size	HP (Max)	Type	Size (Min)	FLA (Max)	Disconnect	Contactors	Overload Relay	CPT
1	7.5	FVNR	12E	9	T4S020TW	A26N1-30-10-84	E45DU30-10	T6075PS1
		FVR	18E					
		2S2W	18E					
1	10	2S1W	24E	11	T4S020TW	A26N1-30-10-84	E45DU30-10	T6075PS1
		FVNR	12E					
		FVR	18E					
2	15	2S2W	18E	17	T4S100E5W	A75N3-30-11-84	TA25DU19	T6075PS1
		2S1W	24E					
		FVNR	12E					
2	20	FVR	18E	22	T4S100E5W	A75N3-30-11-84	TA75DU25	T6075PS1
		2S2W	24E			A50N2-30-11-84		
		2S1W	24E			A50N2-30-11-84		
2	25	FVNR	12E	27	T4S100E5W	A75N3-30-11-84	E80DU80-10/UMC-FBP	T6075PS1
		FVR	18E					
		2S2W	24E					
3	30	2S1W	24E	32	T4S100E5W	A75N3-30-11-84	E80DU80-10/TA75DU42/UMC-FBP	T6075PS1
		FVNR	12E					
		FVR	18E					
3	40	2S2W	18E	41	T4S100E5W	A75N3-30-11-84	E80DU80-10/TA75DU52/UMC-FBP	T6075PS1
		2S1W	24E					
		FVNR	18E					
3	50	FVR	18E	52	T4S100E5W	A75N3-30-11-84	E80DU80-10/TA75DU52/UMC-FBP	T6075PS1
		2S2W	24E				E80DU80-10/TA75DU63/UMC-FBP	
		2S1W	24E				E80DU80-10/TA75DU63/UMC-FBP	
4	60	FVNR	24E	62	T4S100E5W	A145N4-30-11-84	E200DU200-10/TA80DU80/UMC-FBP	T6150PS1
		FVR	36E					
		2S2W	42E					
4	75	2S1W	FULL	77	T4S150E5W	A145N4-30-11-84	TA200DU90	T6150PS1
		FVNR	24E				TA200DU90/E200DU200-10	
		FVR	36E				TA200DU90/E200DU200-10	
4	100	2S2W	42E	99	T4S150E5W	A260N5-30-11-84	E200DU200-10/TA200DU110/UMC-FBP	T6250PS1
		2S1W	FULL					
		FVNR	30E					
5	125	FVR	42E	125	T4S250E5W	A260N5-30-11-84	E320DU320-10/TA200DU150/UMC-FBP	T6250PS1
		2S2W	48E				E320DU320-10/TA200DU150/UMC-FBP	
		2S1W	FULL				E320DU320-10/TA200DU185/UMC-FBP	
5	150	FVNR	36E	144	T5S300E5W	A260N5-30-11-84	E320DU320-10/TA200DU150/UMC-FBP	T6250PS1
		FVR	48E				E320DU320-10/TA450DU185/UMC-FBP	
		2S2W	FULL				E320DU320-10/TA450DU185/UMC-FBP	
5	200	2S1W	FULL	192	T5S400E5W	AF460N6-3011-70	E320DU320-10/UMC-FBP	T6150PS1
		FVNR	42E				E500DU500-10 TA450DU235 UMC-FBP	
		FVR	FULL					
6	250	2S2W	FULL	242	T6S600E5W	AF750N7-3011-70	E500DU500-10 UMC-FBP	T6250PS1
		2S1W	FULL					T6500PS1
		FVNR	FULL					T6500PS1
6	300	FVR	FULL	289	T6S600E5W	AF750N7-3011-70	E500DU500-10 UMC-FBP	T6250PS1
		2S2W	FULL					T6500PS1
		2S1W	FULL					T6500PS1
6	350	FVNR	FULL	336	T6S600E5W	AF750N7-3011-70	E500DU500-10 UMC-FBP	T6250PS1
		FVR	FULL					T6500PS1
		2S2W	FULL					T6500PS1
6	400	2S1W	FULL	382	T6S800E5W	AF750N7-3011-70	E500DU500-10 UMC-FBP	T6250PS1
		FVNR	FULL					T6500PS1
		FVR	FULL					T6500PS1
7	500	2S2W	FULL	472	T6S800E5W	AF750N7-3011-70	E500DU500-10 UMC-FBP	T6250PS1
		2S1W	FULL					T6500PS1
		FVNR	FULL					T6500PS1

600V 42-65kA

Nema Size	HP (Max)	Type	Size (Min)	FLA (Max)	Disconnect	Contactor	Overload Relay	CPT
1	7.5	FVNR	12E	9	T4L020TW	A26N1-30-10-84	E45DU30-10	T6075PS1
		FVR	18E					
		2S2W	18E					
	10	2S1W	24E	11	T4L020TW	A26N1-30-10-84	E45DU30-10	T6075PS1
		FVNR	12E					
		FVR	18E					
2	15	2S2W	18E	17	T4L100E5W	A75N3-30-11-84	TA25DU19/UMC-FBP	T6075PS1
		FVNR	12E					
		FVR	18E					
	20	2S1W	24E	22	T4L100E5W	A75N3-30-11-84	TA75DU25/UMC-FBP	T6075PS1
		FVNR	12E			A50N2-30-11-84		
		FVR	18E			A50N2-30-11-84		
	25	2S2W	24E	27	T4L100E5W	A75N3-30-11-84	E80DU80-10/UMC-FBP	T6075PS1
		FVNR	12E					
		FVR	18E					
3	30	2S1W	24E	32	T4L100E5W	A75N3-30-11-84	E80DU80-10/TA75DU42/UMC-FBP	T6075PS1
		FVNR	12E					
		FVR	18E					
	40	2S2W	24E	41	T4L100E5W	A75N3-30-11-84	E80DU80-10/TA75DU52/UMC-FBP	T6075PS1
		FVNR	12E					
		FVR	18E					
	50	2S1W	24E	52	T4L100E5W	A75N3-30-11-84	E80DU80-10/TA75DU52/UMC-FBP	T6075PS1
		FVNR	12E				E80DU80-10/TA75DU63/UMC-FBP	
		FVR	18E				E80DU80-10/TA75DU63/UMC-FBP	
4	60	2S2W	24E	62	T4L100E5W	A145N4-30-11-84	E200DU200-10/TA80DU80/UMC-FBP	T6150PS1
		FVNR	12E					
		FVR	18E					
	75	2S1W	FULL	77	T4L150E5W/T4H150E5W	A145N4-30-11-84	E200DU200-10/TA200DU90/UMC-FBP	T6150PS1
		FVNR	24E		T4L150E5W			
		FVR	36E		T4L150E5W			
	100	2S2W	42E	99	T4L150E5W	A260N5-30-11-84	E200DU200-10/TA200DU110/UMC-FBP	T6250PS1
		FVNR	30E					
		FVR	42E					
5	125	2S1W	FULL	125	T4L250E5W	A260N5-30-11-84	E320DU320-10/TA200DU150/UMC-FBP	T6250PS1
		FVNR	30E				E320DU320-10/TA200DU150/UMC-FBP	
		FVR	42E				E320DU320-10/TA450DU185/UMC-FBP	
	150	2S2W	48E	144	T5L300E5W	A260N5-30-11-84	E320DU320-10/TA200DU150/UMC-FBP	T6250PS1
		FVNR	36E				E320DU320-10/TA450DU185/UMC-FBP	
		FVR	48E				E320DU320-10/TA450DU185/UMC-FBP	
	200	2S1W	FULL	192	T5L400E5W	AF460N6-3011-70	E320DU320-10/TA450DU185/UMC-FBP	T6250PS1
		FVNR	42E				E320DU320-10/UMC-FBP	
		FVR	FULL					
6	250	2S2W	FULL	242	T6L600E5W	AF750N7-3011-70	E500DU500-10/UMC-FBP	T6250PS1 T6250PS1 T6500PS1
		FVNR	FULL					
		FVR	FULL					
	300	2S1W	FULL	289	T6L600E5W	AF750N7-3011-70	E500DU500-10/UMC-FBP	T6250PS1 T6250PS1 T6500PS1
		FVNR	FULL					
		FVR	FULL					
	350	2S2W	FULL	336	T6L600E5W	AF750N7-3011-70	E500DU500-10/UMC-FBP	T6250PS1 T6250PS1 T6500PS1
		FVNR	FULL					
		FVR	FULL					
7	400	2S1W	FULL	382	T6L800E5W	AF750N7-3011-70	E500DU500-10/UMC-FBP	T6250PS1 T6250PS1 T6500PS1
		FVNR	FULL					
		FVR	FULL					
	500	2S2W	FULL	472	T6L800E5W	AF750N7-3011-70	E500DU500-10/UMC-FBP	T6250PS1 T6250PS1 T6500PS1
		FVNR	FULL					
		FVR	FULL					

# Softstarters

## Softstarters Units

The MNS-MCC incorporates the PST series reduced voltage starter. Softstarter units are available in either withdrawable or fixed unit types, NEMA range Size 2 through 7.

The MNS-MCC combination softstarter units are provided with the following:

- An ABB control power transformer for 120VAC power
- An ABB PST series softstarter ranging from 20 HP to 250 HP (27 A to 302 A) or an ABB PSTB series softstarter with integrated bypass ranging from 300 HP to 500 HP (361 A to 590 A)
- An ABB disconnecting means
- Reversing units include a bypass contactor for PST series softstarter and a set of reversing contactors (A-line or AF type)
- Non-reversing units shall include a bypass contactor (A-line or AF type) for PST series softstarter

Additional accessories may be provided for monitoring and control.

Please refer to the coordination tables section on pages 40-49 of this guide for further information.

## Combination Soft Starter Selection

### 208V; 42kA

Nema Size	HP	Type	FLA (Max)	Unit Size	Soft Starter	Disconnect	CPT (optional)	Bypass Contactor	Mains Contactor (Reversing Only)	Configuration
3	20	Non-Reversing	60	24E	PST72-600-70	T2S100MW	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	60	30E	PST72-600-70	T2S100MW	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
	25	Non-Reversing	75	30E	PST85-600-70	T2S100MW	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	75	36E	PST85-600-70	T4N100E5W	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
4	30	Non-Reversing	88	36E	PST105-600-70	T4N100E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	88	Full	PST105-600-70	T4N100E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed
	40	Non-Reversing	115	36E	PST142-600-70	T4N150E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	115	Full	PST142-600-70	T4N150E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed
5	50	Non-Reversing	143	Full	PST175-600-70	T4N150E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	143	Full	PST175-600-70	T4N150E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
	60	Non-Reversing	169	Full	PST210-600-70	T5N300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	169	Full	PST210-600-70	T5N300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
	75	Non-Reversing	212	Full	PST250-600-70	T5N300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	212	Full	PST250-600-70	T5N300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
6	100	Non-Reversing	273	Full	PST300-600-70	T5N400E5W	T4500PSF1	AF460N6-30-11-70	-	Fixed
		Reversing	273	Full	PST300-600-70	T5N400E5W	T4500PSF1	AF460N6-3011-70	AF460N6-3011-70	Fixed section 600mm
	125	Non-Reversing	344	Full	PSTB370-600-70	T6N600E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	344	Full	PSTB370-600-70	T6N600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
	150	Non-Reversing	396	Full	PSTB470-600-70	T6N600E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	396	Full	PSTB470-600-70	T6N600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
	200	Non-Reversing	528	Full	PSTB570-600-70	T6N800E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	528	Full	PSTB570-600-70	T6N800E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm



208V; 65kA

Nema Size	HP	Type	FLA (Max)	Unit Size	Soft Starter	Disconnect	CPT (optional)	Bypass Contactor	Mains Contactor (Reversing Only)	Configuration
3	20	Non-Reversing	60	24E	PST72-600-70	T2S100MW	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	60	30E	PST72-600-70	T2S100MW	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
	25	Non-Reversing	75	30E	PST85-600-70	T2S100MW	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	75	36E	PST85-600-70	T4N100E5W	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
4	30	Non-Reversing	88	36E	PST105-600-70	T4N100E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	88	Full	PST105-600-70	T4N100E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed
	40	Non-Reversing	115	36E	PST142-600-70	T4N150E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	115	Full	PST142-600-70	T4N150E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed
5	50	Non-Reversing	143	Full	PST175-600-70	T4N150E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	143	Full	PST175-600-70	T4N150E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
	60	Non-Reversing	169	Full	PST210-600-70	T5N300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	169	Full	PST210-600-70	T5N300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
	75	Non-Reversing	212	Full	PST250-600-70	T5N300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	212	Full	PST250-600-70	T5N300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
6	100	Non-Reversing	273	Full	PST300-600-70	T5N400E5W	T4500PSF1	AF460N6-30-11-70	-	Fixed
		Reversing	273	Full	PST300-600-70	T5N400E5W	T4500PSF1	AF460N6-3011-70	AF460N6-3011-70	Fixed section 600mm
	125	Non-Reversing	344	Full	PSTB370-600-70	T6N600E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	344	Full	PSTB370-600-70	T6N600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
	150	Non-Reversing	396	Full	PSTB470-600-70	T6N600E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	396	Full	PSTB470-600-70	T6N600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
	200	Non-Reversing	528	Full	PSTB570-600-70	T6N800E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	528	Full	PSTB570-600-70	T6N800E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm

208V; 100kA

Nema Size	HP	Type	FLA (Max)	Unit Size	Soft Starter	Disconnect	CPT (optional)	Bypass Contactor	Mains Contactor (Reversing Only)	Configuration
3	20	Non-Reversing	60	24E	PST72-600-70	T4S100E5W	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	60	30E	PST72-600-70	T4S100E5W	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
	25	Non-Reversing	75	30E	PST85-600-70	T4S100E5W	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	75	36E	PST85-600-70	T4S100E5W	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
4	30	Non-Reversing	88	36E	PST105-600-70	T4S100E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	88	Full	PST105-600-70	T4S100E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed
	40	Non-Reversing	115	36E	PST142-600-70	T4S150E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	115	Full	PST142-600-70	T4S150E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed
5	50	Non-Reversing	143	Full	PST175-600-70	T4S150E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	143	Full	PST175-600-70	T4S150E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
	60	Non-Reversing	169	Full	PST210-600-70	T5S300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	169	Full	PST210-600-70	T5S300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
	75	Non-Reversing	212	Full	PST250-600-70	T5S300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	212	Full	PST250-600-70	T5S300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
6	100	Non-Reversing	273	Full	PST300-600-70	T5S400E5W	T4500PSF1	AF460N6-30-11-70	-	Fixed
		Reversing	273	Full	PST300-600-70	T5S400E5W	T4500PSF1	AF460N6-3011-70	AF460N6-3011-70	Fixed section 600mm
	125	Non-Reversing	344	Full	PSTB370-600-70	T6S600E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	344	Full	PSTB370-600-70	T6S600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
	150	Non-Reversing	396	Full	PSTB470-600-70	T6S600E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	396	Full	PSTB470-600-70	T6S600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
	200	Non-Reversing	528	Full	PSTB570-600-70	T6S800E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	528	Full	PSTB570-600-70	T6S800E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm

## 240V; 42kA

Nema Size	HP	Type	FLA (Max)	Unit Size	Soft Starter	Disconnect	CPT (optional)	Bypass Contactor	Mains Contactor (Reversing Only)	Configuration
3	20	Non-Reversing	54	24E	PST50-600-70	T2S100MW	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	54	30E	PST50-600-70	T2S100MW	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
	25	Non-Reversing	68	24E	PST72-600-70	T2S100MW	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	68	30E	PST72-600-70	T4N100E5W	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
	30	Non-Reversing	80	30E	PST85-600-70	T2S100MW	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	80	36E	PST85-600-70	T4N100E5W	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
4	40	Non-Reversing	104	36E	PST105-600-70	T4N150E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	104	Full	PST105-600-70	T4N150E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed
	50	Non-Reversing	130	36E	PST142-600-70	T4N150E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	130	Full	PST142-600-70	T4N150E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed
5	60	Non-Reversing	154	Full	PST175-600-70	T5N300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	154	Full	PST175-600-70	T5N300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
	75	Non-Reversing	192	Full	PST210-600-70	T5N300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	192	Full	PST210-600-70	T5N300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
	100	Non-Reversing	248	Full	PST250-600-70	T5N400E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	248	Full	PST250-600-70	T5N400E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
6	125	Non-Reversing	312	Full	PSTB370-600-70	T6N600E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	312	Full	PSTB370-600-70	T6N600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
	150	Non-Reversing	360	Full	PSTB370-600-70	T6N600E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	360	Full	PSTB370-600-70	T6N600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
	200	Non-Reversing	480	Full	PSTB470-600-70	T6N800E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	480	Full	PSTB470-600-70	T6N800E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
7	250	Non-Reversing	604	Full	PSTB1050-600-70	T7S1000E5W	T4500PSF1	Built-in	-	Fixed section 600mm
		Reversing	604	Full	PSTB1050-600-70	T7S1000E5W	T4500PSF1	Built-in	AF750N7-3011-70	Fixed section 600mm

## 240V; 65kA

Nema Size	HP	Type	FLA (Max)	Unit Size	Soft Starter	Disconnect	CPT (optional)	Bypass Contactor	Mains Contactor (Reversing Only)	Configuration
3	20	Non-Reversing	54	24E	PST50-600-70	T2S100MW	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	54	30E	PST50-600-70	T2S100MW	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
	25	Non-Reversing	68	24E	PST72-600-70	T2S100MW	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	68	30E	PST72-600-70	T4N100E5W	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
	30	Non-Reversing	80	30E	PST85-600-70	T2S100MW	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	80	36E	PST85-600-70	T4N100E5W	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
4	40	Non-Reversing	104	36E	PST105-600-70	T4N150E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	104	Full	PST105-600-70	T4N150E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed
	50	Non-Reversing	130	36E	PST142-600-70	T4N150E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	130	Full	PST142-600-70	T4N150E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed
5	60	Non-Reversing	154	Full	PST175-600-70	T5N300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	154	Full	PST175-600-70	T5N300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
	75	Non-Reversing	192	Full	PST210-600-70	T5N300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	192	Full	PST210-600-70	T5N300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
	100	Non-Reversing	248	Full	PST250-600-70	T5N400E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	248	Full	PST250-600-70	T5N400E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
6	125	Non-Reversing	312	Full	PSTB370-600-70	T6N600E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	312	Full	PSTB370-600-70	T6N600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
	150	Non-Reversing	360	Full	PSTB370-600-70	T6N600E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	360	Full	PSTB370-600-70	T6N600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
	200	Non-Reversing	480	Full	PSTB470-600-70	T6N800E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	480	Full	PSTB470-600-70	T6N800E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
7	250	Non-Reversing	604	Full	PSTB1050-600-70	T7S1000E5W	T4500PSF1	Built-in	-	Fixed section 600mm
		Reversing	604	Full	PSTB1050-600-70	T7S1000E5W	T4500PSF1	Built-in	AF750N7-3011-70	Fixed section 600mm

240V; 100kA

Nema Size	HP	Type	FLA (Max)	Unit Size	Soft Starter	Disconnect	CPT (optional)	Bypass Contactor	Mains Contactor (Reversing Only)	Configuration
3	20	Non-Reversing	54	24E	PST50-600-70	T4S100E5W	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	54	30E	PST50-600-70	T4S100E5W	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
	25	Non-Reversing	68	24E	PST72-600-70	T4S100E5W	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	68	30E	PST72-600-70	T4S100E5W	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
	30	Non-Reversing	80	30E	PST85-600-70	T4S100E5W	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	80	36E	PST85-600-70	T4S100E5W	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
4	40	Non-Reversing	104	36E	PST105-600-70	T4S150E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	104	Full	PST105-600-70	T4S150E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed
	50	Non-Reversing	130	36E	PST142-600-70	T4S150E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	130	Full	PST142-600-70	T4S150E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed
5	60	Non-Reversing	154	Full	PST175-600-70	T5S300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	154	Full	PST175-600-70	T5S300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
	75	Non-Reversing	192	Full	PST210-600-70	T5S300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	192	Full	PST210-600-70	T5S300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
	100	Non-Reversing	248	Full	PST250-600-70	T5S400E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	248	Full	PST250-600-70	T5S400E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
6	125	Non-Reversing	312	Full	PSTB370-600-70	T6S600E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	312	Full	PSTB370-600-70	T6S600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
	150	Non-Reversing	360	Full	PSTB370-600-70	T6S600E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	360	Full	PSTB370-600-70	T6S600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
	200	Non-Reversing	480	Full	PSTB470-600-70	T6S800E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	480	Full	PSTB470-600-70	T6S800E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
7	250	Non-Reversing	604	Full	PSTB1050-600-70	T7H1000E5W	T4500PSF1	Built-in	-	Fixed section 600mm
		Reversing	604	Full	PSTB1050-600-70	T7H1000E5W	T4500PSF1	Built-in	AF750N7-3011-70	Fixed section 600mm

Nema Size	HP	Type	FLA (Max)	Unit Size	Soft Starter	Disconnect	CPT (optional)	Bypass Contactor	Mains Contactor (Reversing Only)	Configuration
2	20	Non-Reversing	27	24E	PST30-600-70	T2H050MW	T4150PSF1	A50N2-30-11-84	-	Withdrawable-CCU40
		Reversing	27	30E	PST30-600-70	T2H050MW	T4150PSF1	A50N2-30-11-84	A50N2-30-11-84	Withdrawable-CCU40
	25	Non-Reversing	34	24E	PST37-600-70	T2H050MW	T4150PSF1	A50N2-30-11-84	-	Withdrawable-CCU40
		Reversing	34	30E	PST37-600-70	T2H050MW	T4150PSF1	A50N2-30-11-84	A50N2-30-11-84	Withdrawable-CCU40
3	30	Non-Reversing	40	24E	PST44-600-70	T2H050MW	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU40
		Reversing	40	30E	PST44-600-70	T2H050MW	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU40
	40	Non-Reversing	52	24E	PST50-600-70	T2H100MW	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	52	30E	PST50-600-70	T2H100MW	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
	50	Non-Reversing	65	24E	PST72-600-70	T2H100MW	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	65	30E	PST72-600-70	T2H100MW	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
4	60	Non-Reversing	77	36E	PST85-600-70	T4H100E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	77	Full	PST85-600-70	T4H100E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed
	75	Non-Reversing	96	36E	PST105-600-70	T4H100E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	96	Full	PST105-600-70	T4H100E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed
	100	Non-Reversing	124	36E	PST142-600-70	T4H150E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	124	Full	PST142-600-70	T4H150E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed
5	125	Non-Reversing	156	Full	PST175-600-70	T5H300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	156	Full	PST175-600-70	T5H300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
	150	Non-Reversing	180	Full	PST210-600-70	T5H300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	180	Full	PST210-600-70	T5H300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
	200	Non-Reversing	240	Full	PST250-600-70	T5H300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	240	Full	PST250-600-70	T5H300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
6	250	Non-Reversing	302	Full	PST300-600-70	T6S600E5W	T4500PSF1	AF460N6-30-11-70	-	Fixed
		Reversing	302	Full	PSTB370-600-70	T6H600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
	300	Non-Reversing	361	Full	PSTB370-600-70	T6S600E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	361	Full	PSTB370-600-70	T6S600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
	350	Non-Reversing	414	Full	PSTB470-600-70	T6S600E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	414	Full	PSTB470-600-70	T6S600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
400	Non-Reversing	477	Full	PSTB470-600-70	T6S800E5W	T4500PSF1	Built-in	-	Fixed	
	Reversing	477	Full	PSTB470-600-70	T6S800E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm	
7	450	Non-Reversing	515	Full	PSTB1050-600-70	T7H1000E5W	T4500PSF1	Built-in	-	Fixed section 600mm
		Reversing	515	Full	PSTB1050-600-70	T7H1000E5W	T4500PSF1	Built-in	AF750N7-3011-70	Fixed section 600mm
	500	Non-Reversing	590	Full	PSTB1050-600-70	T7H1000E5W	T4500PSF1	Built-in	-	Fixed section 600mm
		Reversing	590	Full	PSTB1050-600-70	T7H1000E5W	T4500PSF1	Built-in	AF750N7-3011-70	Fixed section 600mm

480V; 65kA

Nema Size	HP	Type	FLA (Max)	Unit Size	Soft Starter	Disconnect	CPT (optional)	Bypass Contactor	Mains Contactor (Reversing Only)	Configuration
2	20	Non-Reversing	27	24E	PST30-600-70	T2H050MW	T4150PSF1	A50N2-30-11-84	-	Withdrawable-CCU40
		Reversing	27	30E	PST30-600-70	T2H050MW	T4150PSF1	A50N2-30-11-84	A50N2-30-11-84	Withdrawable-CCU40
	25	Non-Reversing	34	24E	PST37-600-70	T2H050MW	T4150PSF1	A50N2-30-11-84	-	Withdrawable-CCU40
		Reversing	34	30E	PST37-600-70	T2H050MW	T4150PSF1	A50N2-30-11-84	A50N2-30-11-84	Withdrawable-CCU40
3	30	Non-Reversing	40	24E	PST44-600-70	T2H050MW	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU40
		Reversing	40	30E	PST44-600-70	T2H050MW	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU40
	40	Non-Reversing	52	24E	PST50-600-70	T2H100MW	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	52	30E	PST50-600-70	T2H100MW	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
	50	Non-Reversing	65	24E	PST72-600-70	T2H100MW	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	65	30E	PST72-600-70	T2H100MW	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
4	60	Non-Reversing	77	36E	PST85-600-70	T4H100E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	77	Full	PST85-600-70	T4H100E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed
	75	Non-Reversing	96	36E	PST105-600-70	T4H100E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	96	Full	PST105-600-70	T4H100E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed
	100	Non-Reversing	124	36E	PST142-600-70	T4H150E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	124	Full	PST142-600-70	T4H150E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed
5	125	Non-Reversing	156	Full	PST175-600-70	T5H300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	156	Full	PST175-600-70	T5H300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
	150	Non-Reversing	180	Full	PST210-600-70	T5H300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	180	Full	PST210-600-70	T5H300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
	200	Non-Reversing	240	Full	PST250-600-70	T5H300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed
		Reversing	240	Full	PST250-600-70	T5H300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed
6	250	Non-Reversing	302	Full	PST300-600-70	T6H600E5W	T4500PSF1	AF460N6-30-11-70	-	Fixed
		Reversing	302	Full	PSTB370-600-70	T6H600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
	300	Non-Reversing	361	Full	PSTB370-600-70	T6H600E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	361	Full	PSTB370-600-70	T6H600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
	350	Non-Reversing	414	Full	PSTB470-600-70	T6H600E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	414	Full	PSTB470-600-70	T6H600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
	400	Non-Reversing	477	Full	PSTB470-600-70	T6H800E5W	T4500PSF1	Built-in	-	Fixed
		Reversing	477	Full	PSTB470-600-70	T6H800E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm
7	450	Non-Reversing	515	Full	PSTB1050-600-70	T7H1000E5W	T4500PSF1	Built-in	-	Fixed section 600mm
		Reversing	515	Full	PSTB1050-600-70	T7H1000E5W	T4500PSF1	Built-in	AF750N7-3011-70	Fixed section 600mm
	500	Non-Reversing	590	Full	PSTB1050-600-70	T7H1000E5W	T4500PSF1	Built-in	-	Fixed section 600mm
		Reversing	590	Full	PSTB1050-600-70	T7H1000E5W	T4500PSF1	Built-in	AF750N7-3011-70	Fixed section 600mm

480V; 100kA

Nema Size	HP	Type	FLA (Max)	Unit Size	Soft Starter	Disconnect	CPT (optional)	Bypass Contactor	Mains Contactor (Reversing Only)	Configuration	
2	20	Non-Reversing	27	24E	PST30-600-70	T4L040TW	T4150PSF1	A50N2-30-11-84	-	Withdrawable-CCU40	
		Reversing	27	30E	PST30-600-70	T4L040TW	T4150PSF1	A50N2-30-11-84	A50N2-30-11-84	Withdrawable-CCU40	
	25	Non-Reversing	34	24E	PST37-600-70	T4L050TW	T4150PSF1	A50N2-30-11-84	-	Withdrawable-CCU40	
		Reversing	34	30E	PST37-600-70	T4L050TW	T4150PSF1	A50N2-30-11-84	A50N2-30-11-84	Withdrawable-CCU40	
3	30	Non-Reversing	40	24E	PST44-600-70	T4L050TW	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU40	
		Reversing	40	30E	PST44-600-70	T4L100E5W	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU40	
	40	Non-Reversing	52	24E	PST50-600-70	T4L100E5W	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300	
		Reversing	52	30E	PST50-600-70	T4L100E5W	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300	
	50	Non-Reversing	65	24E	PST72-600-70	T4L100E5W	T4150PSF1	A75N3-30-11-84	-	Withdrawable-CCU300	
		Reversing	65	30E	PST72-600-70	T4L100E5W	T4150PSF1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300	
	4	60	Non-Reversing	77	36E	PST85-600-70	T4L100E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300
			Reversing	77	Full	PST85-600-70	T4L100E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed
75		Non-Reversing	96	36E	PST105-600-70	T4L100E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300	
		Reversing	96	Full	PST105-600-70	T4L100E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed	
100		Non-Reversing	124	36E	PST142-600-70	T4L150E5W	T4250PSF1	A145N4-30-11-84	-	Withdrawable-CCU300	
		Reversing	124	Full	PST142-600-70	T4L150E5W	T4250PSF1	A145N4-30-11-84	A145N4-30-11-84	Fixed	
5	125	Non-Reversing	156	Full	PST175-600-70	T5L300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed	
		Reversing	156	Full	PST175-600-70	T5L300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed	
	150	Non-Reversing	180	Full	PST210-600-70	T5L300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed	
		Reversing	180	Full	PST210-600-70	T5L300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed	
	200	Non-Reversing	240	Full	PST250-600-70	T5L300E5W	T4500PSF1	A260N5-30-11-84	-	Fixed	
		Reversing	240	Full	PST250-600-70	T5L300E5W	T4500PSF1	A260N5-30-11-84	A260N5-30-11-84	Fixed	
6	250	Non-Reversing	302	Full	PST300-600-70	T6L600E5W	T4500PSF1	AF460N6-30-11-70	-	Fixed	
		Reversing	302	Full	PSTB370-600-70	T6L600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm	
	300	Non-Reversing	361	Full	PSTB370-600-70	T6L600E5W	T4500PSF1	Built-in	-	Fixed	
		Reversing	361	Full	PSTB370-600-70	T6L600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm	
	350	Non-Reversing	414	Full	PSTB470-600-70	T6L600E5W	T4500PSF1	Built-in	-	Fixed	
		Reversing	414	Full	PSTB470-600-70	T6L600E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm	
	400	Non-Reversing	477	Full	PSTB470-600-70	T6L800E5W	T4500PSF1	Built-in	-	Fixed	
		Reversing	477	Full	PSTB470-600-70	T6L800E5W	T4500PSF1	Built-in	AF460N6-3011-70	Fixed section 600mm	
7	450	Non-Reversing	515	Full	PSTB1050-600-70	T7L1000E5W	T4500PSF1	Built-in	-	Fixed section 600mm	
		Reversing	515	Full	PSTB1050-600-70	T7L1000E5W	T4500PSF1	Built-in	AF750N7-3011-70	Fixed section 600mm	
	500	Non-Reversing	590	Full	PSTB1050-600-70	T7L1000E5W	T4500PSF1	Built-in	-	Fixed section 600mm	
		Reversing	590	Full	PSTB1050-600-70	T7L1000E5W	T4500PSF1	Built-in	AF750N7-3011-70	Fixed section 600mm	

600V; 25kA

Nema Size	HP	Type	FLA (Max)	Unit Size	Soft Starter	Disconnect	CPT (optional)	Bypass Contactor	Mains Contactor (Reversing Only)	Configuration	
3	40	Non-Reversing	41	24E	PST44-600-70	T4S050MW	T6150PS1	A75N3-30-11-84	-	Withdrawable-CCU40	
		Reversing	41	30E	PST44-600-70	T4S100E5W	T6150PS1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU40	
	50	Non-Reversing	52	24E	PST50-600-70	T4S100MW	T6150PS1	A75N3-30-11-84	-	Withdrawable-CCU300	
		Reversing	52	30E	PST50-600-70	T4S100E5W	T6150PS1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300	
4	60	Non-Reversing	62	30E	PST72-600-70	T4S100E5W	T6200PS1	A145N4-30-11-84	-	Withdrawable-CCU300	
		Reversing	62	Full	PST72-600-70	T4S100E5W	T6200PS1	A145N4-30-11-84	A145N4-30-11-84	Fixed	
	75	Non-Reversing	77	36E	PST85-600-70	T4S100E5W	T6250PS1	A145N4-30-11-84	-	Withdrawable-CCU300	
		Reversing	77	Full	PST85-600-70	T4S100E5W	T6250PS1	A145N4-30-11-84	A145N4-30-11-84	Fixed	
	100	Non-Reversing	99	36E	PST105-600-70	T4S100E5W	T6250PS1	A145N4-30-11-84	-	Withdrawable-CCU300	
		Reversing	99	Full	PST105-600-70	T4S100E5W	T6250PS1	A145N4-30-11-84	A145N4-30-11-84	Fixed	
	5	125	Non-Reversing	125	42E	PST142-600-70	T4S150E5W	T6350PS1	A260N5-30-11-84	-	Withdrawable-CCU300
			Reversing	125	Full	PST142-600-70	T4S150E5W	T6350PS1	A260N5-30-11-84	A260N5-30-11-84	Fixed
150		Non-Reversing	144	Full	PST175-600-70	T4S150E5W	T6500PS1	A260N5-30-11-84	-	Fixed	
		Reversing	144	Full	PST175-600-70	T4S150E5W	T6500PS1	A260N5-30-11-84	A260N5-30-11-84	Fixed	
200		Non-Reversing	192	Full	PST210-600-70	T5S300E5W	T6500PS1	A260N5-30-11-84	-	Fixed	
		Reversing	192	Full	PST210-600-70	T5S300E5W	T6500PS1	A260N5-30-11-84	A260N5-30-11-84	Fixed	
6	250	Non-Reversing	242	Full	PST250-600-70	T6S600E5W	T6500PS1	AF460N6-30-11-70	-	Fixed	
		Reversing	242	Full	PST250-600-70	T5S300E5W	T6500PS1	AF460N6-30-11-70	AF460N6-3011-70	Fixed section 600mm	
	300	Non-Reversing	289	Full	PST300-600-70	T6S600E5W	T6500PS1	AF460N6-30-11-70	-	Fixed	
		Reversing	289	Full	PSTB370-600-70	T6S600E5W	T6500PS1	Built-in	AF460N6-3011-70	Fixed section 600mm	
	350	Non-Reversing	336	Full	PSTB370-600-70	T6S600E5W	T6500PS1	Built-in	-	Fixed	
		Reversing	336	Full	PSTB370-600-70	T6S600E5W	T6500PS1	Built-in	AF460N6-3011-70	Fixed section 600mm	
	400	Non-Reversing	382	Full	PSTB470-600-70	T6S600E5W	T6500PS1	Built-in	-	Fixed	
		Reversing	382	Full	PSTB470-600-70	T6S600E5W	T6500PS1	Built-in	AF460N6-3011-70	Fixed section 600mm	
7	500	Non-Reversing	412/472	Full	PSTB1050-600-70	T7S1000E5W	T6500PS1	Built-in	-	Fixed section 600mm	
		Reversing	412/472	Full	PSTB1050-600-70	T7S1000E5W	T6500PS1	Built-in	AF750N7-3011-70	Fixed section 600mm	

600V; 42kA

Nema Size	HP	Type	FLA (Max)	Unit Size	Soft Starter	Disconnect	CPT (optional)	Bypass Contactor	Mains Contactor (Reversing Only)	Configuration	
3	40	Non-Reversing	41	24E	PST44-600-70	T4L100E5W	T6150PS1	A75N3-30-11-84	-	Withdrawable-CCU40	
		Reversing	41	30E	PST44-600-70	T4L100E5W	T6150PS1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU40	
	50	Non-Reversing	52	24E	PST50-600-70	T4L100E5W	T6150PS1	A75N3-30-11-84	-	Withdrawable-CCU300	
		Reversing	52	30E	PST50-600-70	T4L100E5W	T6150PS1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300	
4	60	Non-Reversing	62	30E	PST72-600-70	T4L100E5W	T6200PS1	A145N4-30-11-84	-	Withdrawable-CCU300	
		Reversing	62	Full	PST72-600-70	T4L100E5W	T6200PS1	A145N4-30-11-84	A145N4-30-11-84	Fixed	
	75	Non-Reversing	77	36E	PST85-600-70	T4L100E5W	T6250PS1	A145N4-30-11-84	-	Withdrawable-CCU300	
		Reversing	77	Full	PST85-600-70	T4L100E5W	T6250PS1	A145N4-30-11-84	A145N4-30-11-84	Fixed	
	100	Non-Reversing	99	36E	PST105-600-70	T4L100E5W	T6250PS1	A145N4-30-11-84	-	Withdrawable-CCU300	
		Reversing	99	Full	PST105-600-70	T4L100E5W	T6250PS1	A145N4-30-11-84	A145N4-30-11-84	Fixed	
	5	125	Non-Reversing	125	42E	PST142-600-70	T4L150E5W	T6350PS1	A260N5-30-11-84	-	Withdrawable-CCU300
			Reversing	125	Full	PST142-600-70	T4L150E5W	T6350PS1	A260N5-30-11-84	A260N5-30-11-84	Fixed
150		Non-Reversing	144	Full	PST175-600-70	T4L150E5W	T6500PS1	A260N5-30-11-84	-	Fixed	
		Reversing	144	Full	PST175-600-70	T4L150E5W	T6500PS1	A260N5-30-11-84	A260N5-30-11-84	Fixed	
200		Non-Reversing	192	Full	PST210-600-70	T5L300E5W	T6500PS1	A260N5-30-11-84	-	Fixed	
		Reversing	192	Full	PST210-600-70	T5L300E5W	T6500PS1	A260N5-30-11-84	A260N5-30-11-84	Fixed	
6	250	Non-Reversing	242	Full	PST250-600-70	T6L600E5W	T6500PS1	AF460N6-30-11-70	-	Fixed	
		Reversing	242	Full	PST250-600-70	T5L300E5W	T6500PS1	AF460N6-30-11-70	AF460N6-3011-70	Fixed section 600mm	
	300	Non-Reversing	289	Full	PST300-600-70	T6L600E5W	T6500PS1	AF460N6-30-11-70	-	Fixed	
		Reversing	289	Full	PSTB370-600-70	T6L600E5W	T6500PS1	Built-in	AF460N6-3011-70	Fixed section 600mm	
	350	Non-Reversing	336	Full	PSTB370-600-70	T6L600E5W	T6500PS1	Built-in	-	Fixed	
		Reversing	336	Full	PSTB370-600-70	T6L600E5W	T6500PS1	Built-in	AF460N6-3011-70	Fixed section 600mm	
	400	Non-Reversing	382	Full	PSTB470-600-70	T6L600E5W	T6500PS1	Built-in	-	Fixed	
		Reversing	382	Full	PSTB470-600-70	T6L600E5W	T6500PS1	Built-in	AF460N6-3011-70	Fixed section 600mm	
	7	500	Non-Reversing	412/472	Full	PSTB1050-600-70	T7L1000E5W	T6500PS1	Built-in	-	Fixed section 600mm
			Reversing	412/472	Full	PSTB1050-600-70	T7L1000E5W	T6500PS1	Built-in	AF750N7-3011-70	Fixed section 600mm



600V; 65kA

Nema Size	HP	Type	FLA (Max)	Unit Size	Soft Starter	Disconnect	CPT (optional)	Bypass Contactor	Mains Contactor (Reversing Only)	Configuration
3	40	Non-Reversing	41	24E	PST44-600-70	T4L100E5W	T6150PS1	A75N3-30-11-84	-	Withdrawable-CCU40
		Reversing	41	30E	PST44-600-70	T4L100E5W	T6150PS1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU40
	50	Non-Reversing	52	24E	PST50-600-70	T4L100E5W	T6150PS1	A75N3-30-11-84	-	Withdrawable-CCU300
		Reversing	52	30E	PST50-600-70	T4L100E5W	T6150PS1	A75N3-30-11-84	A75N3-30-11-84	Withdrawable-CCU300
4	60	Non-Reversing	62	30E	PST72-600-70	T4L100E5W	T6200PS1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	62	Full	PST72-600-70	T4L100E5W	T6200PS1	A145N4-30-11-84	A145N4-30-11-84	Fixed
	75	Non-Reversing	77	36E	PST85-600-70	T4L100E5W	T6250PS1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	77	Full	PST85-600-70	T4L100E5W	T6250PS1	A145N4-30-11-84	A145N4-30-11-84	Fixed
	100	Non-Reversing	99	36E	PST105-600-70	T4L100E5W	T6250PS1	A145N4-30-11-84	-	Withdrawable-CCU300
		Reversing	99	Full	PST105-600-70	T4L100E5W	T6250PS1	A145N4-30-11-84	A145N4-30-11-84	Fixed
5	125	Non-Reversing	125	42E	PST142-600-70	T4L150E5W	T6350PS1	A260N5-30-11-84	-	Withdrawable-CCU300
		Reversing	125	Full	PST142-600-70	T4L150E5W	T6350PS1	A260N5-30-11-84	A260N5-30-11-84	Fixed
	150	Non-Reversing	144	Full	PST175-600-70	T4L150E5W	T6500PS1	A260N5-30-11-84	-	Fixed
		Reversing	144	Full	PST175-600-70	T4L150E5W	T6500PS1	A260N5-30-11-84	A260N5-30-11-84	Fixed
	200	Non-Reversing	192	Full	PST210-600-70	T5L300E5W	T6500PS1	A260N5-30-11-84	-	Fixed
		Reversing	n/a	-	-	-	-	-	-	-
6	250	Non-Reversing	242	Full	PST250-600-70	T6L600E5W	T6500PS1	AF460N6-30-11-70	-	Fixed
		Reversing	242	Full	PST250-600-70	T5L300E5W	T6500PS1	AF460N6-30-11-70	AF460N6-3011-70	Fixed section 600mm
	300	Non-Reversing	n/a	-	-	-	-	-	-	-
		Reversing	289	Full	PSTB370-600-70	T6L600E5W	T6500PS1	Built-in	AF460N6-3011-70	Fixed section 600mm
	350	Non-Reversing	336	Full	PSTB370-600-70	T6L600E5W	T6500PS1	Built-in	-	Fixed
		Reversing	336	Full	PSTB370-600-70	T6L600E5W	T6500PS1	Built-in	AF460N6-3011-70	Fixed section 600mm
	400	Non-Reversing	382	Full	PSTB470-600-70	T6L600E5W	T6500PS1	Built-in	-	Fixed
		Reversing	382	Full	PSTB470-600-70	T6L600E5W	T6500PS1	Built-in	AF460N6-3011-70	Fixed section 600mm
7	500	Non-Reversing	412/472	Full	PSTB1050-600-70	T7L1000E5W	T6500PS1	Built-in	-	Fixed section 600mm
		Reversing	412/472	Full	PSTB1050-600-70	T7L1000E5W	T6500PS1	Built-in	AF750N7-3011-70	Fixed section 600mm

# Drives

## Variable Frequency Drive Units

MNS-MCC Variable Frequency Drive units utilize the industry leading ACS line of drives from ABB. Depending on the VFD size, the units may either be withdrawable or fixed mounted in a full size MCC enclosure.

VFD units for MNS-MCC include the following ACS VFD product families:

- ABB ACS355 up to 25 HP (38A)
- ABB ACS550 up to 150 HP (180 A)
- ABB ACS800 up to 150 HP (180 A)

A typical MCC VFD unit is designed as a packaged system that contains the following basic components:

- An ABB ACS variable frequency drive with door-mounted keypad for control and programming
- ABB/SACE circuit breaker disconnect
- ABB industrial control transformer (for 120VAC control power)

Accessories available in the VFD units are:

- ABB interface control relays (CR series)
- ABB 24Vdc power supply (CP series)
- 30mm LED pilot lights for status indication
- 30mm selector switches and pushbuttons for control functions

For detailed information on standard components, please refer to the VFD product offering tables in this section.

## Variable Frequency Drive Selection

### ACS550; 208-240V; 42kA

HP	Duty (standard / heavy)*	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
0.75	standard (n/a)	-	-	-	-	-	-	-
	heavy	3.5	30E	R1	ACS550-U1-06A6-2	T2S015TW	T4045SF1	Withdrawable-CCU40
1	standard	4.6	30E	R1	ACS550-U1-06A6-2	T2S015TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-07A5-2	T2S015TW	T4045SF1	Withdrawable-CCU40
1.5	standard	6.6	30E	R1	ACS550-U1-07A5-2	T2S015TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-012A-2	T2S025BW	T4045SF1	Withdrawable-CCU40
2	standard	7.5	30E	R1	ACS550-U1-012A-2	T2S025BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-017A-2	T2S025BW	T4045SF1	Withdrawable-CCU40
3	standard	11.8	30E	R1	ACS550-U1-017A-2	T2S025BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-024A-2	T2S060BW	T4045SF1	Withdrawable-CCU40
5	standard	16.7	30E	R2	ACS550-U1-024A-2	T2S060BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-031A-2	T2S060BW	T4045SF1	Withdrawable-CCU40
7.5	standard	24.2	30E	R2	ACS550-U1-031A-2	T2S060BW	T4045SF1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-046A-2	T2S060BW	T4045SF1	Withdrawable-CCU40
10	standard	30.8	42E	R3	ACS550-U1-046A-2	T2S060BW	T4045SF1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-059A-2	T2S100BW	T4045SF1	Withdrawable-CCU300
15	standard	46.2	42E	R3	ACS550-U1-059A-2	T2S100BW	T4045SF1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-075A-2	T4N100BW	T4045SF1	Withdrawable-CCU300
20	standard	59.4	48E	R4	ACS550-U1-075A-2	T4N100BW	T4045SF1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-088A-2	T4N150BW	T4045SF1	Withdrawable-CCU300
25	standard	74.8	48E	R4	ACS550-U1-088A-2	T4N150BW	T4045SF1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-114A-2	T4N150BW	T4045SF1	Withdrawable-CCU300
30	standard	88	48E	R4	ACS550-U1-114A-2	T4N150BW	T4045SF1	Withdrawable-CCU300
	heavy		Full	R6	ACS550-U1-143A-2	T4N250BW	T4045SF1	Fixed
40	standard	114	Full	R6	ACS550-U1-143A-2	T4N250BW	T4045SF1	Fixed
	heavy		Full	R6	ACS550-U1-178A-2	T4N250BW	T4045SF1	Fixed
50	standard	143	Full	R6	ACS550-U1-178A-2	T4N250BW	T4045SF1	Fixed
	heavy		Full	R6	ACS550-U1-221A-2	T5N300BW	T4045SF1	Fixed
60	standard	178	Full	R6	ACS550-U1-221A-2	T5N300BW	T4045SF1	Fixed
	heavy		Full	R6	ACS550-U1-248A-2	T5N400BW	T4045SF1	Fixed
75	standard	221	Full	R6	ACS550-U1-248A-2	T5N400BW	T4045SF1	Fixed
	heavy (n/a)		-	-	-	-	-	-

\*Note: Standard-duty drives are rated for 110% nominal current for 1 minute; heavy-duty drives rated for 150% nominal current for 1 minute

ACS550; 208-240V; 65kA

HP	Duty (standard / heavy)*	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
0.75	standard (n/a)	-	-	-	-	-	-	-
	heavy	3.5	30E	R1	ACS550-U1-06A6-2	T2S015TW	T4045SF1	Withdrawable-CCU40
1	standard	4.6	30E	R1	ACS550-U1-06A6-2	T2S015TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-07A5-2	T2S015TW	T4045SF1	Withdrawable-CCU40
1.5	standard	6.6	30E	R1	ACS550-U1-07A5-2	T2S015TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-012A-2	T2S025BW	T4045SF1	Withdrawable-CCU40
2	standard	7.5	30E	R1	ACS550-U1-012A-2	T2S025BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-017A-2	T2S025BW	T4045SF1	Withdrawable-CCU40
3	standard	11.8	30E	R1	ACS550-U1-017A-2	T2S025BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-024A-2	T2S060BW	T4045SF1	Withdrawable-CCU40
5	standard	16.7	30E	R2	ACS550-U1-024A-2	T2S060BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-031A-2	T2S060BW	T4045SF1	Withdrawable-CCU40
7.5	standard	24.2	30E	R2	ACS550-U1-031A-2	T2S060BW	T4045SF1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-046A-2	T2S060BW	T4045SF1	Withdrawable-CCU40
10	standard	30.8	42E	R3	ACS550-U1-046A-2	T2S060BW	T4045SF1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-059A-2	T2S100BW	T4045SF1	Withdrawable-CCU300
15	standard	46.2	42E	R3	ACS550-U1-059A-2	T2S100BW	T4045SF1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-075A-2	T4N100BW	T4045SF1	Withdrawable-CCU300
20	standard	59.4	48E	R4	ACS550-U1-075A-2	T4N100BW	T4045SF1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-088A-2	T4N150BW	T4045SF1	Withdrawable-CCU300
25	standard	74.8	48E	R4	ACS550-U1-088A-2	T4N150BW	T4045SF1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-114A-2	T4N150BW	T4045SF1	Withdrawable-CCU300
30	standard	88	48E	R4	ACS550-U1-114A-2	T4N150BW	T4045SF1	Withdrawable-CCU300
	heavy		Full	R6	ACS550-U1-143A-2	T4N250BW	T4045SF1	Fixed
40	standard	114	Full	R6	ACS550-U1-143A-2	T4N250BW	T4045SF1	Fixed
	heavy		Full	R6	ACS550-U1-178A-2	T4N250BW	T4045SF1	Fixed
50	standard	143	Full	R6	ACS550-U1-178A-2	T4N250BW	T4045SF1	Fixed
	heavy		Full	R6	ACS550-U1-221A-2	T5N300BW	T4045SF1	Fixed
60	standard	178	Full	R6	ACS550-U1-221A-2	T5N300BW	T4045SF1	Fixed
	heavy		Full	R6	ACS550-U1-248A-2	T5N400BW	T4045SF1	Fixed
75	standard	221	Full	R6	ACS550-U1-248A-2	T5N400BW	T4045SF1	Fixed
	heavy (n/a)		-	-	-	-	-	-

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

ACS550; 208-240V; 100kA

HP	Duty (standard / heavy)*	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
0.75	standard (n/a)	-	-	-	-	-	-	-
	heavy	3.5	30E	R1	ACS550-U1-06A6-2	T4S020TW	T4045SF1	Withdrawable-CCU40
1	standard	4.6	30E	R1	ACS550-U1-06A6-2	T4S020TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-07A5-2	T4S020TW	T4045SF1	Withdrawable-CCU40
1.5	standard	6.6	30E	R1	ACS550-U1-07A5-2	T4S020TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-012A-2	T4S020TW	T4045SF1	Withdrawable-CCU40
2	standard	7.5	30E	R1	ACS550-U1-012A-2	T4S020TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-017A-2	T4S030TW	T4045SF1	Withdrawable-CCU40
3	standard	11.8	30E	R1	ACS550-U1-017A-2	T4S030TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-024A-2	T4S040TW	T4045SF1	Withdrawable-CCU40
5	standard	16.7	30E	R2	ACS550-U1-024A-2	T4S040TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-031A-2	T4S040TW	T4045SF1	Withdrawable-CCU40
7.5	standard	24.2	30E	R2	ACS550-U1-031A-2	T4S040TW	T4045SF1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-046A-2	T4S100BW	T4045SF1	Withdrawable-CCU40
10	standard	30.8	42E	R3	ACS550-U1-046A-2	T4S100BW	T4045SF1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-059A-2	T4S100BW	T4045SF1	Withdrawable-CCU300
15	standard	46.2	42E	R3	ACS550-U1-059A-2	T4S100BW	T4045SF1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-075A-2	T4S100BW	T4045SF1	Withdrawable-CCU300
20	standard	59.4	48E	R4	ACS550-U1-075A-2	T4S100BW	T4045SF1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-088A-2	T4S150BW	T4045SF1	Withdrawable-CCU300
25	standard	74.8	48E	R4	ACS550-U1-088A-2	T4S150BW	T4045SF1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-114A-2	T4S150BW	T4045SF1	Withdrawable-CCU300
30	standard	88	48E	R4	ACS550-U1-114A-2	T4S150BW	T4045SF1	Withdrawable-CCU300
	heavy		Full	R6	ACS550-U1-143A-2	T4S250BW	T4045SF1	Fixed
40	standard	114	Full	R6	ACS550-U1-143A-2	T4S250BW	T4045SF1	Fixed
	heavy		Full	R6	ACS550-U1-178A-2	T4S250BW	T4045SF1	Fixed
50	standard	143	Full	R6	ACS550-U1-178A-2	T4S250BW	T4045SF1	Fixed
	heavy		Full	R6	ACS550-U1-221A-2	T5S300BW	T4045SF1	Fixed
60	standard	178	Full	R6	ACS550-U1-221A-2	T5S300BW	T4045SF1	Fixed
	heavy		Full	R6	ACS550-U1-248A-2	T5S400BW	T4045SF1	Fixed
75	standard	221	Full	R6	ACS550-U1-248A-2	T5S400BW	T4045SF1	Fixed
	heavy (n/a)		-	-	-	-	-	-

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

ACS550; 480V; 42kA

HP	Duty (standard / heavy)*	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
1	standard (n/a)	2.4	30E	R1	ACS550-U1-04A1-4	T2H015TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-04A1-4	T2H015TW	T4045SF1	Withdrawable-CCU40
1.5	standard	3.3	30E	R1	ACS550-U1-06A9-4	T2H015TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-06A9-4	T2H015TW	T4045SF1	Withdrawable-CCU40
2	standard	4.1	30E	R1	ACS550-U1-08A8-4	T2H015TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-08A8-4	T2H015TW	T4045SF1	Withdrawable-CCU40
3	standard	6.9	30E	R1	ACS550-U1-08A8-4	T2H015TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-012A-4	T2H025BW	T4045SF1	Withdrawable-CCU40
5	standard	8.8	30E	R1	ACS550-U1-012A-4	T2H025BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-015A-4	T2H025BW	T4045SF1	Withdrawable-CCU40
7.5	standard	11.9	30E	R2	ACS550-U1-015A-4	T2H025BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-023A-4	T2H030TW	T4045SF1	Withdrawable-CCU40
10	standard	15.4	30E	R2	ACS550-U1-023A-4	T2H030TW	T4045SF1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-031A-4	T2H060BW	T4045SF1	Withdrawable-CCU40
15	standard	23	42E	R3	ACS550-U1-031A-4	T2H060BW	T4045SF1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-038A-4	T2H060BW	T4045SF1	Withdrawable-CCU40
20	standard	31	42E	R3	ACS550-U1-038A-4	T2H060BW	T4045SF1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-045A-4	T2H060BW	T4045SF1	Withdrawable-CCU40
25	standard	38	42E	R3	ACS550-U1-045A-4	T2H060BW	T4045SF1	Withdrawable-CCU40
	heavy		48E	R4	ACS550-U1-059A-4	T2H100BW	T4045SF1	Withdrawable-CCU300
30	standard	45	48E	R4	ACS550-U1-059A-4	T2H100BW	T4045SF1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-072A-4	T4H100BW	T4045SF1	Withdrawable-CCU300
40	standard	59	48E	R4	ACS550-U1-072A-4	T4H100BW	T4045SF1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-078A-4	T4H100BW	T4045SF1	Withdrawable-CCU300
50	standard	72	48E	R4	ACS550-U1-078A-4	T4H100BW	T4045SF1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-097A-4	T4H150BW	T4045SF1	Withdrawable-CCU300
60	standard	77	48E	R4	ACS550-U1-097A-4	T4H150BW	T4045SF1	Withdrawable-CCU300
	heavy		Full	R5	ACS550-U1-125A-4	T4H250BW	T4045SF1	Fixed
75	standard	96	Full	R5	ACS550-U1-125A-4	T4H250BW	T4045SF1	Fixed
	heavy (n/a)		Full	R6	ACS550-U1-157A-4	T4H250BW	T4045SF1	Fixed
100	standard	125	Full	R6	ACS550-U1-157A-4	T4H250BW	T4045SF1	Fixed
	heavy (n/a)		Full	R6	ACS550-U1-180A-4	T4H250BW	T4045SF1	Fixed
125	standard	157	Full	R6	ACS550-U1-180A-4	T4H250BW	T4045SF1	Fixed
	heavy (n/a)		Full	R6	ACS550-U1-246A-4	T5H400BW	T4045SF1	Fixed
150	standard	180	Full	R6	ACS550-U1-246A-4	T5H400BW	T4045SF1	Fixed
	heavy (n/a)		-	-	-	-	-	-

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

ACS550; 480V; 65kA

HP	Duty (standard / heavy)*	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
1	standard (n/a)	2.4	30E	R1	ACS550-U1-04A1-4	T2H015TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-04A1-4	T2H015TW	T4045SF1	Withdrawable-CCU40
1.5	standard	3.3	30E	R1	ACS550-U1-06A9-4	T2H015TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-06A9-4	T2H015TW	T4045SF1	Withdrawable-CCU40
2	standard	4.1	30E	R1	ACS550-U1-08A8-4	T2H015TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-08A8-4	T2H015TW	T4045SF1	Withdrawable-CCU40
3	standard	6.9	30E	R1	ACS550-U1-08A8-4	T2H015TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-012A-4	T2H025BW	T4045SF1	Withdrawable-CCU40
5	standard	8.8	30E	R1	ACS550-U1-012A-4	T2H025BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-015A-4	T2H025BW	T4045SF1	Withdrawable-CCU40
7.5	standard	11.9	30E	R2	ACS550-U1-015A-4	T2H025BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-023A-4	T2H030TW	T4045SF1	Withdrawable-CCU40
10	standard	15.4	30E	R2	ACS550-U1-023A-4	T2H030TW	T4045SF1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-031A-4	T2H060BW	T4045SF1	Withdrawable-CCU40
15	standard	23	42E	R3	ACS550-U1-031A-4	T2H060BW	T4045SF1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-038A-4	T2H060BW	T4045SF1	Withdrawable-CCU40
20	standard	31	42E	R3	ACS550-U1-038A-4	T2H060BW	T4045SF1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-045A-4	T2H060BW	T4045SF1	Withdrawable-CCU40
25	standard	38	42E	R3	ACS550-U1-045A-4	T2H060BW	T4045SF1	Withdrawable-CCU40
	heavy		48E	R4	ACS550-U1-059A-4	T2H100BW	T4045SF1	Withdrawable-CCU300
30	standard	45	48E	R4	ACS550-U1-059A-4	T2H100BW	T4045SF1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-072A-4	T4H100BW	T4045SF1	Withdrawable-CCU300
40	standard	59	48E	R4	ACS550-U1-072A-4	T4H100BW	T4045SF1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-078A-4	T4H100BW	T4045SF1	Withdrawable-CCU300
50	standard	72	48E	R4	ACS550-U1-078A-4	T4H100BW	T4045SF1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-097A-4	T4H150BW	T4045SF1	Withdrawable-CCU300
60	standard	77	48E	R4	ACS550-U1-097A-4	T4H150BW	T4045SF1	Withdrawable-CCU300
	heavy		Full	R5	ACS550-U1-125A-4	T4H250BW	T4045SF1	Fixed
75	standard	96	Full	R5	ACS550-U1-125A-4	T4H250BW	T4045SF1	Fixed
	heavy (n/a)		Full	R6	ACS550-U1-157A-4	T4H250BW	T4045SF1	Fixed
100	standard	125	Full	R6	ACS550-U1-157A-4	T4H250BW	T4045SF1	Fixed
	heavy (n/a)		Full	R6	ACS550-U1-180A-4	T4H250BW	T4045SF1	Fixed
125	standard	157	Full	R6	ACS550-U1-180A-4	T4H250BW	T4045SF1	Fixed
	heavy (n/a)		Full	R6	ACS550-U1-246A-4	T5H400BW	T4045SF1	Fixed
150	standard	180	Full	R6	ACS550-U1-246A-4	T5H400BW	T4045SF1	Fixed
	heavy (n/a)		-	-	-	-	-	-

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

ACS550; 480V; 100kA

HP	Duty (standard / heavy)*	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
1	standard (n/a)	-	-	-	-	-	-	-
	heavy	2.4	30E	R1	ACS550-U1-04A1-4	T4L020TW	T4045SF1	Withdrawable-CCU40
1.5	standard	3.3	30E	R1	ACS550-U1-04A1-4	T4L020TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-06A9-4	T4L020TW	T4045SF1	Withdrawable-CCU40
2	standard	4.1	30E	R1	ACS550-U1-06A9-4	T4L020TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-08A8-4	T4L020TW	T4045SF1	Withdrawable-CCU40
3	standard	6.9	30E	R1	ACS550-U1-08A8-4	T4L020TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R1	ACS550-U1-012A-4	T4L020TW	T4045SF1	Withdrawable-CCU40
5	standard	8.8	30E	R1	ACS550-U1-012A-4	T4L020TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-015A-4	T4L020TW	T4045SF1	Withdrawable-CCU40
7.5	standard	11.9	30E	R2	ACS550-U1-015A-4	T4L020TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-023A-4	T4L030TW	T4045SF1	Withdrawable-CCU40
10	standard	15.4	30E	R2	ACS550-U1-023A-4	T4L030TW	T4045SF1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-031A-4	T4L040TW	T4045SF1	Withdrawable-CCU40
15	standard	23	42E	R3	ACS550-U1-031A-4	T4L040TW	T4045SF1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-038A-4	T4L050TW	T4045SF1	Withdrawable-CCU40
20	standard	31	42E	R3	ACS550-U1-038A-4	T4L050TW	T4045SF1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-045A-4	T4L100BW	T4045SF1	Withdrawable-CCU40
25	standard	38	42E	R3	ACS550-U1-045A-4	T4L100BW	T4045SF1	Withdrawable-CCU40
	heavy		48E	R4	ACS550-U1-059A-4	T4L100BW	T4045SF1	Withdrawable-CCU300
30	standard	45	48E	R4	ACS550-U1-059A-4	T4L100BW	T4045SF1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-072A-4	T4L100BW	T4045SF1	Withdrawable-CCU300
40	standard	59	48E	R4	ACS550-U1-072A-4	T4L100BW	T4045SF1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-078A-4	T4L100BW	T4045SF1	Withdrawable-CCU300
50	standard	72	48E	R4	ACS550-U1-078A-4	T4L100BW	T4045SF1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-097A-4	T4L150BW	T4045SF1	Withdrawable-CCU300
60	standard	77	48E	R4	ACS550-U1-097A-4	T4L150BW	T4045SF1	Withdrawable-CCU300
	heavy		Full	R5	ACS550-U1-125A-4	T4L250BW	T4045SF1	Fixed
75	standard	96	Full	R5	ACS550-U1-125A-4	T4L250BW	T4045SF1	Fixed
	heavy (n/a)		Full	R6	ACS550-U1-157A-4	T4L250BW	T4045SF1	Fixed
100	standard	125	Full	R6	ACS550-U1-157A-4	T4L250BW	T4045SF1	Fixed
	heavy (n/a)		Full	R6	ACS550-U1-180A-4	T4L250BW	T4045SF1	Fixed
125	standard	157	Full	R6	ACS550-U1-180A-4	T4L250BW	T4045SF1	Fixed
	heavy (n/a)		Full	R6	ACS550-U1-246A-4	T5L400BW	T4045SF1	Fixed
150	standard	180	Full	R6	ACS550-U1-246A-4	T5L400BW	T4045SF1	Fixed
	heavy (n/a)		-	-	-	-	-	-

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

ACS550; 600V; 25kA

HP	Duty (standard / heavy)*	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
1.5	standard	2.4	30E	R2	ACS550-U1-02A7-6	T4S020TW	T6045S1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-03A9-6	T4S020TW	T6045S1	Withdrawable-CCU40
2	standard	2.7	30E	R2	ACS550-U1-03A9-6	T4S020TW	T6045S1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-06A1-6	T4S020TW	T6045S1	Withdrawable-CCU40
3	standard	3.9	30E	R2	ACS550-U1-06A1-6	T4S020TW	T6045S1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-09A0-6	T4S020TW	T6045S1	Withdrawable-CCU40
5	standard	6.1	30E	R2	ACS550-U1-09A0-6	T4S020TW	T6045S1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-011A-6	T4S020TW	T6045S1	Withdrawable-CCU40
7.5	standard	9	30E	R2	ACS550-U1-011A-6	T4S020TW	T6045S1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-017A-6	T4S030TW	T6045S1	Withdrawable-CCU40
10	standard	11	30E	R2	ACS550-U1-017A-6	T4S030TW	T6045S1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-022A-6	T4S030TW	T6045S1	Withdrawable-CCU40
15	standard	17	42E	R3	ACS550-U1-022A-6	T4S030TW	T6045S1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-027A-6	T4S040TW	T6045S1	Withdrawable-CCU40
20	standard	22	42E	R3	ACS550-U1-027A-6	T4S040TW	T6045S1	Withdrawable-CCU40
	heavy		48E	R4	ACS550-U1-032A-6	T4S050TW	T6045S1	Withdrawable-CCU40
25	standard	27	48E	R4	ACS550-U1-032A-6	T4S050TW	T6045S1	Withdrawable-CCU40
	heavy		48E	R4	ACS550-U1-041A-6	T4S100BW	T6045S1	Withdrawable-CCU40
30	standard	32	48E	R4	ACS550-U1-041A-6	T4S100BW	T6045S1	Withdrawable-CCU40
	heavy		48E	R4	ACS550-U1-052A-6	T4S100BW	T6045S1	Withdrawable-CCU300
40	standard	41	48E	R4	ACS550-U1-052A-6	T4S100BW	T6045S1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-062A-6	T4S100BW	T6045S1	Withdrawable-CCU300
50	standard	52	48E	R4	ACS550-U1-062A-6	T4S100BW	T6045S1	Withdrawable-CCU300
	heavy		Full	R6	ACS550-U1-077A-6	T4S100BW	T6045S1	Fixed
60	standard	62	Full	R6	ACS550-U1-077A-6	T4S100BW	T6045S1	Fixed
	heavy		Full	R6	ACS550-U1-099A-6	T4S150BW	T6045S1	Fixed
75	standard	77	Full	R6	ACS550-U1-099A-6	T4S150BW	T6045S1	Fixed
	heavy (n/a)		Full	R6	ACS550-U1-125A-6	T4S250BW	T6045S1	Fixed
100	standard	99	Full	R6	ACS550-U1-125A-6	T4S250BW	T6045S1	Fixed
	heavy (n/a)		Full	R6	ACS550-U1-144A-6	T4S250BW	T6045S1	Fixed
125	standard	125	Full	R6	ACS550-U1-144A-6	T4S250BW	T6045S1	Fixed
	heavy (n/a)		-	-	-	-	-	-

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

ACS550; 600V; 42kA

HP	Duty (standard / heavy)*	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
1.5	standard	2.4	30E	R2	ACS550-U1-02A7-6	T4L020TW	T6045S1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-03A9-6	T4L020TW	T6045S1	Withdrawable-CCU40
2	standard	2.7	30E	R2	ACS550-U1-03A9-6	T4L020TW	T6045S1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-06A1-6	T4L020TW	T6045S1	Withdrawable-CCU40
3	standard	3.9	30E	R2	ACS550-U1-06A1-6	T4L020TW	T6045S1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-09A0-6	T4L020TW	T6045S1	Withdrawable-CCU40
5	standard	6.1	30E	R2	ACS550-U1-09A0-6	T4L020TW	T6045S1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-011A-6	T4L020TW	T6045S1	Withdrawable-CCU40
7.5	standard	9	30E	R2	ACS550-U1-011A-6	T4L020TW	T6045S1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-017A-6	T4L030TW	T6045S1	Withdrawable-CCU40
10	standard	11	30E	R2	ACS550-U1-017A-6	T4L030TW	T6045S1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-022A-6	T4L030TW	T6045S1	Withdrawable-CCU40
15	standard	17	42E	R3	ACS550-U1-022A-6	T4L030TW	T6045S1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-027A-6	T4L040TW	T6045S1	Withdrawable-CCU40
20	standard	22	42E	R3	ACS550-U1-027A-6	T4L040TW	T6045S1	Withdrawable-CCU40
	heavy		48E	R4	ACS550-U1-032A-6	T4L050TW	T6045S1	Withdrawable-CCU40
25	standard	27	48E	R4	ACS550-U1-032A-6	T4L050TW	T6045S1	Withdrawable-CCU40
	heavy		48E	R4	ACS550-U1-041A-6	T4L100BW	T6045S1	Withdrawable-CCU40
30	standard	32	48E	R4	ACS550-U1-041A-6	T4L100BW	T6045S1	Withdrawable-CCU40
	heavy		48E	R4	ACS550-U1-052A-6	T4L100BW	T6045S1	Withdrawable-CCU300
40	standard	41	48E	R4	ACS550-U1-052A-6	T4L100BW	T6045S1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-062A-6	T4L100BW	T6045S1	Withdrawable-CCU300
50	standard	52	48E	R4	ACS550-U1-062A-6	T4L100BW	T6045S1	Withdrawable-CCU300
	heavy		Full	R6	ACS550-U1-077A-6	T4L100BW	T6045S1	Fixed
60	standard	62	Full	R6	ACS550-U1-077A-6	T4L100BW	T6045S1	Fixed
	heavy		Full	R6	ACS550-U1-099A-6	T4L150BW	T6045S1	Fixed
75	standard	77	Full	R6	ACS550-U1-099A-6	T4L150BW	T6045S1	Fixed
	heavy (n/a)		Full	R6	ACS550-U1-125A-6	T4L250BW	T6045S1	Fixed
100	standard	99	Full	R6	ACS550-U1-125A-6	T4L250BW	T6045S1	Fixed
	heavy (n/a)		Full	R6	ACS550-U1-144A-6	T4L250BW	T6045S1	Fixed
125	standard	125	Full	R6	ACS550-U1-144A-6	T4L250BW	T6045S1	Fixed
	heavy (n/a)		-	-	-	-	-	-

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

ACS550; 600V; 65kA

HP	Duty (standard / heavy)*	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
1.5	standard	2.4	30E	R2	ACS550-U1-02A7-6	T4L020TW	T6045S1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-03A9-6	T4L020TW	T6045S1	Withdrawable-CCU40
2	standard	2.7	30E	R2	ACS550-U1-03A9-6	T4L020TW	T6045S1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-06A1-6	T4L020TW	T6045S1	Withdrawable-CCU40
3	standard	3.9	30E	R2	ACS550-U1-06A1-6	T4L020TW	T6045S1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-09A0-6	T4L020TW	T6045S1	Withdrawable-CCU40
5	standard	6.1	30E	R2	ACS550-U1-09A0-6	T4L020TW	T6045S1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-011A-6	T4L020TW	T6045S1	Withdrawable-CCU40
7.5	standard	9	30E	R2	ACS550-U1-011A-6	T4L020TW	T6045S1	Withdrawable-CCU40
	heavy		30E	R2	ACS550-U1-017A-6	T4L030TW	T6045S1	Withdrawable-CCU40
10	standard	11	30E	R2	ACS550-U1-017A-6	T4L030TW	T6045S1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-022A-6	T4L030TW	T6045S1	Withdrawable-CCU40
15	standard	17	42E	R3	ACS550-U1-022A-6	T4L030TW	T6045S1	Withdrawable-CCU40
	heavy		42E	R3	ACS550-U1-027A-6	T4L040TW	T6045S1	Withdrawable-CCU40
20	standard	22	42E	R3	ACS550-U1-027A-6	T4L040TW	T6045S1	Withdrawable-CCU40
	heavy		48E	R4	ACS550-U1-032A-6	T4L050TW	T6045S1	Withdrawable-CCU40
25	standard	27	48E	R4	ACS550-U1-032A-6	T4L050TW	T6045S1	Withdrawable-CCU40
	heavy		48E	R4	ACS550-U1-041A-6	T4L100BW	T6045S1	Withdrawable-CCU40
30	standard	32	48E	R4	ACS550-U1-041A-6	T4L100BW	T6045S1	Withdrawable-CCU40
	heavy		48E	R4	ACS550-U1-052A-6	T4L100BW	T6045S1	Withdrawable-CCU300
40	standard	41	48E	R4	ACS550-U1-052A-6	T4L100BW	T6045S1	Withdrawable-CCU300
	heavy		48E	R4	ACS550-U1-062A-6	T4L100BW	T6045S1	Withdrawable-CCU300
50	standard	52	48E	R4	ACS550-U1-062A-6	T4L100BW	T6045S1	Withdrawable-CCU300
	heavy		Full	R6	ACS550-U1-077A-6	T4L100BW	T6045S1	Fixed
60	standard	62	Full	R6	ACS550-U1-077A-6	T4L100BW	T6045S1	Fixed
	heavy		Full	R6	ACS550-U1-099A-6	T4L150BW	T6045S1	Fixed
75	standard	77	Full	R6	ACS550-U1-099A-6	T4L150BW	T6045S1	Fixed
	heavy (n/a)		Full	R6	ACS550-U1-125A-6	T4L250BW	T6045S1	Fixed
100	standard	99	Full	R6	ACS550-U1-125A-6	T4L250BW	T6045S1	Fixed
	heavy (n/a)		Full	R6	ACS550-U1-144A-6	T4L250BW	T6045S1	Fixed
125	standard	125	Full	R6	ACS550-U1-144A-6	T4L250BW	T6045S1	Fixed
	heavy (n/a)		-	-	-	-	-	-

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

## ACS355; 208-240V; 42kA

HP	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
0.5	2.4	12E	R0	ACS355-03U-03A5-2	T2S015TW	T4045SF1	Withdrawable-CCU40
0.75	3.5	12E	R1	ACS355-03U-04A7-2	T2S015TW	T4045SF1	Withdrawable-CCU40
1	4.7	12E	R1	ACS355-03U-06A7-2	T2S015TW	T4045SF1	Withdrawable-CCU40
1.5	6.7	12E	R1	ACS355-03U-07A5-2	T2S015TW	T4045SF1	Withdrawable-CCU40
2	7.5	18E	R2	ACS355-03U-09A8-2	T2S020TW	T4045SF1	Withdrawable-CCU40
3	9.8	18E	R2	ACS355-03U-17A6-2	T2S030TW	T4045SF1	Withdrawable-CCU40
4	13.3	18E	R2	ACS355-03U-17A6-2	T2S030TW	T4045SF1	Withdrawable-CCU40
5	17.6	18E	R3	ACS355-03U-24A4-2	T2S060BW	T4045SF1	Withdrawable-CCU40
7.5	24.4	24E	R4	ACS355-03U-31A0-2	T2S060BW	T4045SF1	Withdrawable-CCU40
10	31	24E	R4	ACS355-03U-46A2-2	T2S100BW	T4045SF1	Withdrawable-CCU40

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

## ACS355; 208-240V; 65kA

HP	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
0.5	2.4	12E	R0	ACS355-03U-03A5-2	T2S015TW	T4045SF1	Withdrawable-CCU40
0.75	3.5	12E	R1	ACS355-03U-04A7-2	T2S015TW	T4045SF1	Withdrawable-CCU40
1	4.7	12E	R1	ACS355-03U-06A7-2	T2S015TW	T4045SF1	Withdrawable-CCU40
1.5	6.7	12E	R1	ACS355-03U-07A5-2	T2S015TW	T4045SF1	Withdrawable-CCU40
2	7.5	18E	R2	ACS355-03U-09A8-2	T2S020TW	T4045SF1	Withdrawable-CCU40
3	9.8	18E	R2	ACS355-03U-17A6-2	T2S030TW	T4045SF1	Withdrawable-CCU40
4	13.3	18E	R2	ACS355-03U-17A6-2	T2S030TW	T4045SF1	Withdrawable-CCU40
5	17.6	18E	R3	ACS355-03U-24A4-2	T2S060BW	T4045SF1	Withdrawable-CCU40
7.5	24.4	24E	R4	ACS355-03U-31A0-2	T2S060BW	T4045SF1	Withdrawable-CCU40
10	31	24E	R4	ACS355-03U-46A2-2	T2S100BW	T4045SF1	Withdrawable-CCU40

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

## ACS355; 208-240V; 100kA

HP	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
0.5	2.4	12E	R0	ACS355-03U-03A5-2	T4S020TW	T4045SF1	Withdrawable-CCU40
0.75	3.5	12E	R1	ACS355-03U-04A7-2	T4S020TW	T4045SF1	Withdrawable-CCU40
1	4.7	12E	R1	ACS355-03U-06A7-2	T4S020TW	T4045SF1	Withdrawable-CCU40
1.5	6.7	12E	R1	ACS355-03U-07A5-2	T4S020TW	T4045SF1	Withdrawable-CCU40
2	7.5	18E	R2	ACS355-03U-09A8-2	T4S020TW	T4045SF1	Withdrawable-CCU40
3	9.8	18E	R2	ACS355-03U-17A6-2	T4S030TW	T4045SF1	Withdrawable-CCU40
4	13.3	18E	R2	ACS355-03U-17A6-2	T4S030TW	T4045SF1	Withdrawable-CCU40
5	17.6	18E	R3	ACS355-03U-24A4-2	T4S100BW	T4045SF1	Withdrawable-CCU40
7.5	24.4	24E	R4	ACS355-03U-31A0-2	T4S100BW	T4045SF1	Withdrawable-CCU40
10	31	24E	R4	ACS355-03U-46A2-2	T4S100BW	T4045SF1	Withdrawable-CCU40

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

## ACS355; 480V; 42kA

HP	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
0.5	1.1	12E	R0	ACS355-03U-01A9-4	T2H015TW	T4045SF1	Withdrawable-CCU40
0.75	1.9	12E	R1	ACS355-03U-02A4-4	T2H015TW	T4045SF1	Withdrawable-CCU40
1	2.1	12E	R1	ACS355-03U-03A3-4	T2H015TW	T4045SF1	Withdrawable-CCU40
1.5	3	12E	R1	ACS355-03U-04A1-4	T2H015TW	T4045SF1	Withdrawable-CCU40
2	3.4	12E	R1	ACS355-03U-05A6-4	T2H015TW	T4045SF1	Withdrawable-CCU40
3	5.6	12E	R1	ACS355-03U-08A8-4	T2H020TW	T4045SF1	Withdrawable-CCU40
4	7.3	12E	R1	ACS355-03U-08A8-4	T2H020TW	T4045SF1	Withdrawable-CCU40
5	8.8	18E	R3	ACS355-03U-12A5-4	T2H025BW	T4045SF1	Withdrawable-CCU40
7.5	12.5	18E	R3	ACS355-03U-15A6-4	T2H030TW	T4045SF1	Withdrawable-CCU40
10	15.6	18E	R3	ACS355-03U-23A1-4	T2H060BW	T4045SF1	Withdrawable-CCU40
15	23.1	24E	R4	ACS355-03U-31A0-4	T2H060BW	T4045SF1	Withdrawable-CCU40
20	31	24E	R4	ACS355-03U-38A0-4	T2H100BW	T4045SF1	Withdrawable-CCU40
25	38	24E	R4	ACS355-03U-44A0-4	T2H100BW	T4045SF1	Withdrawable-CCU40

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

## ACS355; 480V; 65kA

HP	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
0.5	1.1	12E	R0	ACS355-03U-01A9-4	T2H015TW	T4045SF1	Withdrawable-CCU40
0.75	1.9	12E	R1	ACS355-03U-02A4-4	T2H015TW	T4045SF1	Withdrawable-CCU40
1	2.1	12E	R1	ACS355-03U-03A3-4	T2H015TW	T4045SF1	Withdrawable-CCU40
1.5	3	12E	R1	ACS355-03U-04A1-4	T2H015TW	T4045SF1	Withdrawable-CCU40
2	3.4	12E	R1	ACS355-03U-05A6-4	T2H015TW	T4045SF1	Withdrawable-CCU40
3	5.6	12E	R1	ACS355-03U-08A8-4	T2H020TW	T4045SF1	Withdrawable-CCU40
4	7.3	12E	R1	ACS355-03U-08A8-4	T2H020TW	T4045SF1	Withdrawable-CCU40
5	8.8	18E	R3	ACS355-03U-12A5-4	T2H025BW	T4045SF1	Withdrawable-CCU40
7.5	12.5	18E	R3	ACS355-03U-15A6-4	T2H030TW	T4045SF1	Withdrawable-CCU40
10	15.6	18E	R3	ACS355-03U-23A1-4	T2H060BW	T4045SF1	Withdrawable-CCU40
15	23.1	24E	R4	ACS355-03U-31A0-4	T2H060BW	T4045SF1	Withdrawable-CCU40
20	31	24E	R4	ACS355-03U-38A0-4	T2H100BW	T4045SF1	Withdrawable-CCU40
25	38	24E	R4	ACS355-03U-44A0-4	T2H100BW	T4045SF1	Withdrawable-CCU40

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

## ACS355; 480V; 100kA

HP	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
0.5	1.1	12E	R0	ACS355-03U-01A9-4	T4L020TW	T4045SF1	Withdrawable-CCU40
0.75	1.9	12E	R1	ACS355-03U-02A4-4	T4L020TW	T4045SF1	Withdrawable-CCU40
1	2.1	12E	R1	ACS355-03U-03A3-4	T4L020TW	T4045SF1	Withdrawable-CCU40
1.5	3	12E	R1	ACS355-03U-04A1-4	T4L020TW	T4045SF1	Withdrawable-CCU40
2	3.4	12E	R1	ACS355-03U-05A6-4	T4L020TW	T4045SF1	Withdrawable-CCU40
3	5.6	12E	R1	ACS355-03U-08A8-4	T4L020TW	T4045SF1	Withdrawable-CCU40
4	7.3	12E	R1	ACS355-03U-08A8-4	T4L020TW	T4045SF1	Withdrawable-CCU40
5	8.8	18E	R3	ACS355-03U-12A5-4	T4L030TW	T4045SF1	Withdrawable-CCU40
7.5	12.5	18E	R3	ACS355-03U-15A6-4	T4L030TW	T4045SF1	Withdrawable-CCU40
10	15.6	18E	R3	ACS355-03U-23A1-4	T4L030TW	T4045SF1	Withdrawable-CCU40
15	23.1	24E	R4	ACS355-03U-31A0-4	T4L100BW	T4045SF1	Withdrawable-CCU40
20	31	24E	R4	ACS355-03U-38A0-4	T4L100BW	T4045SF1	Withdrawable-CCU40
25	38	24E	R4	ACS355-03U-44A0-4	T4L100BW	T4045SF1	Withdrawable-CCU40

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

## ACS800; 208-240V; 42kA

HP	Duty (standard / heavy)*	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
0.75	standard (n/a)	-	-	-	-	-	-	-
1	heavy	3.5	30E	R2	ACS800-U1-0002-2	T2S015TW	T4045SF1	Withdrawable-CCU40
	standard	-	30E	R2	ACS800-U1-0002-2	T2S015TW	T4045SF1	Withdrawable-CCU40
1.5	heavy	4.6	30E	R2	ACS800-U1-0003-2	T2S015TW	T4045SF1	Withdrawable-CCU40
	standard	-	30E	R2	ACS800-U1-0003-2	T2S015TW	T4045SF1	Withdrawable-CCU40
2	heavy	6.6	30E	R2	ACS800-U1-0004-2	T2S025BW	T4045SF1	Withdrawable-CCU40
	standard	-	30E	R2	ACS800-U1-0004-2	T2S025BW	T4045SF1	Withdrawable-CCU40
3	heavy	7.5	30E	R2	ACS800-U1-0004-2	T2S025BW	T4045SF1	Withdrawable-CCU40
	standard	-	30E	R3	ACS800-U1-0006-2	T2S025BW	T4045SF1	Withdrawable-CCU40
5	heavy	13	30E	R3	ACS800-U1-0006-2	T2S025BW	T4045SF1	Withdrawable-CCU40
	standard	-	30E	R3	ACS800-U1-0009-2	T2S060BW	T4045SF1	Withdrawable-CCU40
7.5	heavy	9.8	30E	R3	ACS800-U1-0009-2	T2S060BW	T4045SF1	Withdrawable-CCU40
	standard	-	30E	R3	ACS800-U1-0009-2	T2S060BW	T4045SF1	Withdrawable-CCU40
10	heavy	17	30E	R3	ACS800-U1-0011-2	T2S060BW	T4045SF1	Withdrawable-CCU40
	standard	-	30E	R3	ACS800-U1-0011-2	T2S060BW	T4045SF1	Withdrawable-CCU40
15	heavy	25	30E	R3	ACS800-U1-0016-2	T2S060BW	T4045SF1	Withdrawable-CCU40
	standard	-	Full	R4	ACS800-U1-0016-2	T2S060BW	T4045SF1	Fixed
20	heavy	24.2	Full	R4	ACS800-U1-0016-2	T2S060BW	T4045SF1	Fixed
	standard	-	Full	R4	ACS800-U1-0020-2	T2S100BW	T4045SF1	Fixed
25	heavy	30.8	Full	R4	ACS800-U1-0020-2	T2S100BW	T4045SF1	Fixed
	standard	-	Full	R5	ACS800-U1-0025-2	T4N100BW	T4045SF1	Fixed
30	heavy	46.2	Full	R5	ACS800-U1-0025-2	T4N100BW	T4045SF1	Fixed
	standard	-	Full	R5	ACS800-U1-0025-2	T4N100BW	T4045SF1	Fixed
40	heavy	59.4	Full	R5	ACS800-U1-0030-2	T4N100BW	T4045SF1	Fixed
	standard	-	Full	R5	ACS800-U1-0030-2	T4N100BW	T4045SF1	Fixed
50	heavy	74.8	Full	R5	ACS800-U1-0040-2	T4N150BW	T4045SF1	Fixed
	standard	-	Full	R5	ACS800-U1-0040-2	T4N150BW	T4045SF1	Fixed
60	heavy	88	Full	R5	ACS800-U1-0040-2	T4N150BW	T4045SF1	Fixed
	standard	-	Full	R6	ACS800-U1-0050-2	T4N250BW	T4045SF1	Fixed
75	heavy	114	Full	R6	ACS800-U1-0050-2	T4N250BW	T4045SF1	Fixed
	standard	-	Full	R6	ACS800-U1-0060-2	T4N250BW	T4045SF1	Fixed
100	heavy	143	Full	R6	ACS800-U1-0060-2	T4N250BW	T4045SF1	Fixed
	standard	-	Full	R6	ACS800-U1-0070-2	T4N250BW	T4045SF1	Fixed
150	heavy	169	Full	R6	ACS800-U1-0070-2	T4N250BW	T4045SF1	Fixed
	standard	-	-	-	-	-	-	-

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute



ACS800; 208-240V; 65kA

HP	Duty (standard / heavy)*	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
0.75	standard (n/a)	-	-	-	-	-	-	-
	heavy	3.5	30E	R2	ACS800-U1-0002-2	T2S015TW	T4045SF1	Withdrawable-CCU40
1	standard	4.6	30E	R2	ACS800-U1-0002-2	T2S015TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS800-U1-0003-2	T2S015TW	T4045SF1	Withdrawable-CCU40
1.5	standard	6.6	30E	R2	ACS800-U1-0003-2	T2S015TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS800-U1-0004-2	T2S025BW	T4045SF1	Withdrawable-CCU40
2	standard	7.5	30E	R2	ACS800-U1-0004-2	T2S025BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R3	ACS800-U1-0006-2	T2S025BW	T4045SF1	Withdrawable-CCU40
3	standard	13	30E	R3	ACS800-U1-0006-2	T2S025BW	T4045SF1	Withdrawable-CCU40
	heavy	9.8	30E	R3	ACS800-U1-0009-2	T2S060BW	T4045SF1	Withdrawable-CCU40
5	standard	17	30E	R3	ACS800-U1-0009-2	T2S060BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R3	ACS800-U1-0011-2	T2S060BW	T4045SF1	Withdrawable-CCU40
7.5	standard	25	30E	R3	ACS800-U1-0011-2	T2S060BW	T4045SF1	Withdrawable-CCU40
	heavy		24.2	Full	R4	ACS800-U1-0016-2	T2S060BW	T4045SF1
10	standard	30.8	Full	R4	ACS800-U1-0016-2	T2S060BW	T4045SF1	Fixed
	heavy		Full	R4	ACS800-U1-0020-2	T2S100BW	T4045SF1	Fixed
15	standard	46.2	Full	R4	ACS800-U1-0020-2	T2S100BW	T4045SF1	Fixed
	heavy		Full	R5	ACS800-U1-0025-2	T4N100BW	T4045SF1	Fixed
20	standard	59.4	Full	R5	ACS800-U1-0025-2	T4N100BW	T4045SF1	Fixed
	heavy		Full	R5	ACS800-U1-0030-2	T4N100BW	T4045SF1	Fixed
25	standard	74.8	Full	R5	ACS800-U1-0030-2	T4N100BW	T4045SF1	Fixed
	heavy		Full	R5	ACS800-U1-0040-2	T4N150BW	T4045SF1	Fixed
30	standard	88	Full	R5	ACS800-U1-0040-2	T4N150BW	T4045SF1	Fixed
	heavy		Full	R6	ACS800-U1-0050-2	T4N250BW	T4045SF1	Fixed
40	standard	114	Full	R6	ACS800-U1-0050-2	T4N250BW	T4045SF1	Fixed
	heavy		Full	R6	ACS800-U1-0060-2	T4N250BW	T4045SF1	Fixed
50	standard	143	Full	R6	ACS800-U1-0060-2	T4N250BW	T4045SF1	Fixed
	heavy		Full	R6	ACS800-U1-0070-2	T4N250BW	T4045SF1	Fixed
60	standard	169	Full	R6	ACS800-U1-0070-2	T4N250BW	T4045SF1	Fixed
	heavy (n/a)		-	-	-	-	-	-

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

ACS800; 208-240V; 100kA

HP	Duty (standard / heavy)*	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
0.75	standard (n/a)	-	-	-	-	-	-	-
	heavy	3.5	30E	R2	ACS800-U1-0002-2	T4S020TW	T4045SF1	Withdrawable-CCU40
1	standard	4.6	30E	R2	ACS800-U1-0002-2	T4S020TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS800-U1-0003-2	T4S020TW	T4045SF1	Withdrawable-CCU40
1.5	standard	6.6	30E	R2	ACS800-U1-0003-2	T4S020TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS800-U1-0004-2	T4S020TW	T4045SF1	Withdrawable-CCU40
2	standard	7.5	30E	R2	ACS800-U1-0004-2	T4S020TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R3	ACS800-U1-0006-2	T4S030TW	T4045SF1	Withdrawable-CCU40
3	standard	13	30E	R3	ACS800-U1-0006-2	T4S030TW	T4045SF1	Withdrawable-CCU40
	heavy	9.8	30E	R3	ACS800-U1-0009-2	T4S040TW	T4045SF1	Withdrawable-CCU40
5	standard	17	30E	R3	ACS800-U1-0009-2	T4S040TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R3	ACS800-U1-0011-2	T4S050TW	T4045SF1	Withdrawable-CCU40
7.5	standard	25	30E	R3	ACS800-U1-0011-2	T4S050TW	T4045SF1	Withdrawable-CCU40
	heavy		24.2	Full	R4	ACS800-U1-0016-2	T4S100BW	T4045SF1
10	standard	30.8	Full	R4	ACS800-U1-0016-2	T4S100BW	T4045SF1	Fixed
	heavy		Full	R4	ACS800-U1-0020-2	T4S100BW	T4045SF1	Fixed
15	standard	46.2	Full	R4	ACS800-U1-0020-2	T4S100BW	T4045SF1	Fixed
	heavy		Full	R5	ACS800-U1-0025-2	T4S100BW	T4045SF1	Fixed
20	standard	59.4	Full	R5	ACS800-U1-0025-2	T4S100BW	T4045SF1	Fixed
	heavy		Full	R5	ACS800-U1-0030-2	T4S100BW	T4045SF1	Fixed
25	standard	74.8	Full	R5	ACS800-U1-0030-2	T4S100BW	T4045SF1	Fixed
	heavy		Full	R5	ACS800-U1-0040-2	T4S150BW	T4045SF1	Fixed
30	standard	88	Full	R5	ACS800-U1-0040-2	T4S150BW	T4045SF1	Fixed
	heavy		Full	R6	ACS800-U1-0050-2	T4S250BW	T4045SF1	Fixed
40	standard	114	Full	R6	ACS800-U1-0050-2	T4S250BW	T4045SF1	Fixed
	heavy		Full	R6	ACS800-U1-0060-2	T4S250BW	T4045SF1	Fixed
50	standard	143	Full	R6	ACS800-U1-0060-2	T4S250BW	T4045SF1	Fixed
	heavy		Full	R6	ACS800-U1-0070-2	T4S250BW	T4045SF1	Fixed
60	standard	169	Full	R6	ACS800-U1-0070-2	T4S250BW	T4045SF1	Fixed
	heavy (n/a)		-	-	-	-	-	-

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

ACS800; 480V; 42kA

HP	Duty (standard / heavy)*	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
2	standard	4.2	30E	R2	ACS800-U1-0005-5	T2H015TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS800-U1-0006-5	T2H015TW	T4045SF1	Withdrawable-CCU40
3	standard	6.2	30E	R2	ACS800-U1-0006-5	T2H015TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS800-U1-0009-5	T2H025BW	T4045SF1	Withdrawable-CCU40
5	standard	8.1	30E	R2	ACS800-U1-0009-5	T2H025BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS800-U1-0011-5	T2H025BW	T4045SF1	Withdrawable-CCU40
7.5	standard	11	30E	R2	ACS800-U1-0011-5	T2H025BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R3	ACS800-U1-0016-5	T2H025BW	T4045SF1	Withdrawable-CCU40
10	standard	14	30E	R3	ACS800-U1-0016-5	T2H025BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R3	ACS800-U1-0020-5	T2H060BW	T4045SF1	Withdrawable-CCU40
15	standard	21	30E	R3	ACS800-U1-0020-5	T2H060BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R3	ACS800-U1-0025-5	T2H060BW	T4045SF1	Withdrawable-CCU40
20	standard	27	30E	R3	ACS800-U1-0025-5	T2H060BW	T4045SF1	Withdrawable-CCU40
	heavy		Full	R4	ACS800-U1-0030-5	T2H060BW	T4045SF1	Fixed
25	standard	34	Full	R4	ACS800-U1-0030-5	T2H060BW	T4045SF1	Fixed
	heavy		Full	R4	ACS800-U1-0040-5	T2H100BW	T4045SF1	Fixed
30	standard	40	Full	R4	ACS800-U1-0040-5	T2H100BW	T4045SF1	Fixed
	heavy		Full	R5	ACS800-U1-0050-5	T2H100BW	T4045SF1	Fixed
40	standard	52	Full	R5	ACS800-U1-0050-5	T2H100BW	T4045SF1	Fixed
	heavy		Full	R5	ACS800-U1-0060-5	T4H100BW	T4045SF1	Fixed
50	standard	65	Full	R5	ACS800-U1-0060-5	T4H100BW	T4045SF1	Fixed
	heavy		Full	R5	ACS800-U1-0070-5	T4H150BW	T4045SF1	Fixed
60	standard	77	Full	R5	ACS800-U1-0070-5	T4H150BW	T4045SF1	Fixed
	heavy		Full	R6	ACS800-U1-0100-5	T4H250BW	T4045SF1	Fixed
75	standard	96	Full	R6	ACS800-U1-0100-5	T4H250BW	T4045SF1	Fixed
	heavy		Full	R6	ACS800-U1-0120-5	T4H250BW	T4045SF1	Fixed
100	standard	124	Full	R6	ACS800-U1-0120-5	T4H250BW	T4045SF1	Fixed
	heavy		Full	R6	ACS800-U1-0140-5	T4H250BW	T4045SF1	Fixed
125	standard	156	Full	R6	ACS800-U1-0140-5	T4H250BW	T4045SF1	Fixed
	heavy		Full	R6	ACS800-U1-0205-5	T5H400BW	T4045SF1	Fixed
150	standard	180	Full	R6	ACS800-U1-0205-5	T5H400BW	T4045SF1	Fixed
	heavy (n/a)		-	-	-	-	-	-

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

ACS800; 480V; 65kA

HP	Duty (standard / heavy)*	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
2	standard	4.2	30E	R2	ACS800-U1-0005-5	T2H015TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS800-U1-0006-5	T2H015TW	T4045SF1	Withdrawable-CCU40
3	standard	6.2	30E	R2	ACS800-U1-0006-5	T2H015TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS800-U1-0009-5	T2H025BW	T4045SF1	Withdrawable-CCU40
5	standard	8.1	30E	R2	ACS800-U1-0009-5	T2H025BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS800-U1-0011-5	T2H025BW	T4045SF1	Withdrawable-CCU40
7.5	standard	11	30E	R2	ACS800-U1-0011-5	T2H025BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R3	ACS800-U1-0016-5	T2H025BW	T4045SF1	Withdrawable-CCU40
10	standard	14	30E	R3	ACS800-U1-0016-5	T2H025BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R3	ACS800-U1-0020-5	T2H060BW	T4045SF1	Withdrawable-CCU40
15	standard	21	30E	R3	ACS800-U1-0020-5	T2H060BW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R3	ACS800-U1-0025-5	T2H060BW	T4045SF1	Withdrawable-CCU40
20	standard	27	30E	R3	ACS800-U1-0025-5	T2H060BW	T4045SF1	Withdrawable-CCU40
	heavy		Full	R4	ACS800-U1-0030-5	T2H060BW	T4045SF1	Fixed
25	standard	34	Full	R4	ACS800-U1-0030-5	T2H060BW	T4045SF1	Fixed
	heavy		Full	R4	ACS800-U1-0040-5	T2H100BW	T4045SF1	Fixed
30	standard	40	Full	R4	ACS800-U1-0040-5	T2H100BW	T4045SF1	Fixed
	heavy		Full	R5	ACS800-U1-0050-5	T2H100BW	T4045SF1	Fixed
40	standard	52	Full	R5	ACS800-U1-0050-5	T2H100BW	T4045SF1	Fixed
	heavy		Full	R5	ACS800-U1-0060-5	T4H100BW	T4045SF1	Fixed
50	standard	65	Full	R5	ACS800-U1-0060-5	T4H100BW	T4045SF1	Fixed
	heavy		Full	R5	ACS800-U1-0070-5	T4H150BW	T4045SF1	Fixed
60	standard	77	Full	R5	ACS800-U1-0070-5	T4H150BW	T4045SF1	Fixed
	heavy		Full	R6	ACS800-U1-0100-5	T4H250BW	T4045SF1	Fixed
75	standard	96	Full	R6	ACS800-U1-0100-5	T4H250BW	T4045SF1	Fixed
	heavy		Full	R6	ACS800-U1-0120-5	T4H250BW	T4045SF1	Fixed
100	standard	124	Full	R6	ACS800-U1-0120-5	T4H250BW	T4045SF1	Fixed
	heavy		Full	R6	ACS800-U1-0140-5	T4H250BW	T4045SF1	Fixed
125	standard	156	Full	R6	ACS800-U1-0140-5	T4H250BW	T4045SF1	Fixed
	heavy		Full	R6	ACS800-U1-0205-5	T5H400BW	T4045SF1	Fixed
150	standard	180	Full	R6	ACS800-U1-0205-5	T5H400BW	T4045SF1	Fixed
	heavy (n/a)		-	-	-	-	-	-

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

ACS800; 480V; 100kA

HP	Duty (standard / heavy)*	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
2	standard	4.2	30E	R2	ACS800-U1-0005-5	T4L020TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS800-U1-0006-5	T4L020TW	T4045SF1	Withdrawable-CCU40
3	standard	6.2	30E	R2	ACS800-U1-0006-5	T4L020TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS800-U1-0009-5	T4L020TW	T4045SF1	Withdrawable-CCU40
5	standard	8.1	30E	R2	ACS800-U1-0009-5	T4L020TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R2	ACS800-U1-0011-5	T4L020TW	T4045SF1	Withdrawable-CCU40
7.5	standard	11	30E	R2	ACS800-U1-0011-5	T4L020TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R3	ACS800-U1-0016-5	T4L030TW	T4045SF1	Withdrawable-CCU40
10	standard	14	30E	R3	ACS800-U1-0016-5	T4L030TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R3	ACS800-U1-0020-5	T4L040TW	T4045SF1	Withdrawable-CCU40
15	standard	21	30E	R3	ACS800-U1-0020-5	T4L040TW	T4045SF1	Withdrawable-CCU40
	heavy		30E	R3	ACS800-U1-0025-5	T4L050TW	T4045SF1	Withdrawable-CCU40
20	standard	27	30E	R3	ACS800-U1-0025-5	T4L050TW	T4045SF1	Withdrawable-CCU40
	heavy		Full	R4	ACS800-U1-0030-5	T4L100BW	T4045SF1	Fixed
25	standard	34	Full	R4	ACS800-U1-0030-5	T4L100BW	T4045SF1	Fixed
	heavy		Full	R4	ACS800-U1-0040-5	T4L100BW	T4045SF1	Fixed
30	standard	40	Full	R4	ACS800-U1-0040-5	T4L100BW	T4045SF1	Fixed
	heavy		Full	R5	ACS800-U1-0050-5	T4L100BW	T4045SF1	Fixed
40	standard	52	Full	R5	ACS800-U1-0050-5	T4L100BW	T4045SF1	Fixed
	heavy		Full	R5	ACS800-U1-0060-5	T4L100BW	T4045SF1	Fixed
50	standard	65	Full	R5	ACS800-U1-0060-5	T4L100BW	T4045SF1	Fixed
	heavy		Full	R5	ACS800-U1-0070-5	T4L150BW	T4045SF1	Fixed
60	standard	77	Full	R5	ACS800-U1-0070-5	T4L150BW	T4045SF1	Fixed
	heavy		Full	R6	ACS800-U1-0100-5	T4L250BW	T4045SF1	Fixed
75	standard	96	Full	R6	ACS800-U1-0100-5	T4L250BW	T4045SF1	Fixed
	heavy		Full	R6	ACS800-U1-0120-5	T4L250BW	T4045SF1	Fixed
100	standard	124	Full	R6	ACS800-U1-0120-5	T4L250BW	T4045SF1	Fixed
	heavy		Full	R6	ACS800-U1-0140-5	T4L250BW	T4045SF1	Fixed
125	standard	156	Full	R6	ACS800-U1-0140-5	T4L250BW	T4045SF1	Fixed
	heavy		Full	R6	ACS800-U1-0205-5	T5L400BW	T4045SF1	Fixed
150	standard	180	Full	R6	ACS800-U1-0205-5	T5L400BW	T4045SF1	Fixed
	heavy (n/a)		-	-	-	-	-	-

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

ACS800; 600V; 25kA

HP	Duty (standard / heavy)*	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
5	standard (n/a)	6.1	-	-	-	-	-	-
	heavy		Full	R4	ACS800-U1-0011-7	T4S020TW	T6045S1	Fixed
7.5	standard	9	Full	R4	ACS800-U1-0011-7	T4S020TW	T6045S1	Fixed
	heavy		Full	R4	ACS800-U1-0016-7	T4S020TW	T6045S1	Fixed
10	standard	11	Full	R4	ACS800-U1-0020-7	T4S030TW	T6045S1	Fixed
	heavy		Full	R4	ACS800-U1-0020-7	T4S030TW	T6045S1	Fixed
15	standard	17	Full	R4	ACS800-U1-0025-7	T4S030TW	T6045S1	Fixed
	heavy		Full	R4	ACS800-U1-0025-7	T4S030TW	T6045S1	Fixed
20	standard	22	Full	R4	ACS800-U1-0030-7	T4S040TW	T6045S1	Fixed
	heavy		Full	R4	ACS800-U1-0030-7	T4S040TW	T6045S1	Fixed
25	standard	27	Full	R4	ACS800-U1-0040-7	T4S050TW	T6045S1	Fixed
	heavy		Full	R4	ACS800-U1-0040-7	T4S050TW	T6045S1	Fixed
30	standard	32	Full	R5	ACS800-U1-0050-7	T4S100BW	T6045S1	Fixed
	heavy		Full	R5	ACS800-U1-0050-7	T4S100BW	T6045S1	Fixed
40	standard	41	Full	R5	ACS800-U1-0060-7	T4S100BW	T6045S1	Fixed
	heavy		Full	R6	ACS800-U1-0070-7	T4S100BW	T6045S1	Fixed
50	standard	52	Full	R6	ACS800-U1-0070-7	T4S100BW	T6045S1	Fixed
	heavy		Full	R6	ACS800-U1-0100-7	T4S150BW	T6045S1	Fixed
60	standard	62	Full	R6	ACS800-U1-0100-7	T4S150BW	T6045S1	Fixed
	heavy		Full	R6	ACS800-U1-0120-7	T4S150BW	T6045S1	Fixed
75	standard	77	Full	R6	ACS800-U1-0120-7	T4S150BW	T6045S1	Fixed
	heavy		Full	R6	ACS800-U1-0145-7	T4S250BW	T6045S1	Fixed
100	standard	99	Full	R6	ACS800-U1-0145-7	T4S250BW	T6045S1	Fixed
	heavy		Full	R6	ACS800-U1-0175-7	T4S250BW	T6045S1	Fixed
125	standard	125	Full	R6	ACS800-U1-0175-7	T4S250BW	T6045S1	Fixed
	heavy		Full	R6	ACS800-U1-0205-7	T4S250BW	T6045S1	Fixed
150	standard	144	-	-	-	-	-	-
	heavy (n/a)		Full	R6	ACS800-U1-0205-7	T4S250BW	T6045S1	Fixed

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

ACS800; 600V; 42kA

HP	Duty (standard / heavy)*	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
5	standard (n/a)	6.1	Full	R4	ACS800-U1-0011-7	T4L020TW	T6045S1	Fixed
	heavy							
7.5	standard	9	Full	R4	ACS800-U1-0011-7	T4L020TW	T6045S1	Fixed
	heavy							
10	standard	11	Full	R4	ACS800-U1-0020-7	T4L030TW	T6045S1	Fixed
	heavy							
15	standard	17	Full	R4	ACS800-U1-0025-7	T4L030TW	T6045S1	Fixed
	heavy							
20	standard	22	Full	R4	ACS800-U1-0030-7	T4L040TW	T6045S1	Fixed
	heavy							
25	standard	27	Full	R4	ACS800-U1-0040-7	T4L050TW	T6045S1	Fixed
	heavy							
30	standard	32	Full	R5	ACS800-U1-0050-7	T4L100BW	T6045S1	Fixed
	heavy							
40	standard	41	Full	R5	ACS800-U1-0060-7	T4L100BW	T6045S1	Fixed
	heavy							
50	standard	52	Full	R6	ACS800-U1-0070-7	T4L100BW	T6045S1	Fixed
	heavy							
60	standard	62	Full	R6	ACS800-U1-0100-7	T4L150BW	T6045S1	Fixed
	heavy							
75	standard	77	Full	R6	ACS800-U1-0120-7	T4L150BW	T6045S1	Fixed
	heavy							
100	standard	99	Full	R6	ACS800-U1-0145-7	T4L250BW	T6045S1	Fixed
	heavy							
125	standard	125	Full	R6	ACS800-U1-0175-7	T4L250BW	T6045S1	Fixed
	heavy							
150	standard	-	Full	R6	ACS800-U1-0205-7	T4L250BW	T6045S1	Fixed
	heavy (n/a)							

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

ACS800; 600V; 65kA

HP	Duty (standard / heavy)*	FLA (Max)	Unit Size	Drive frame size	Drive	Disconnect	CPT (optional)	Configuration
5	standard (n/a)	6.1	Full	R4	ACS800-U1-0011-7	T4L020TW	T6045S1	Fixed
	heavy							
7.5	standard	9	Full	R4	ACS800-U1-0011-7	T4L020TW	T6045S1	Fixed
	heavy							
10	standard	11	Full	R4	ACS800-U1-0020-7	T4L030TW	T6045S1	Fixed
	heavy							
15	standard	17	Full	R4	ACS800-U1-0025-7	T4L030TW	T6045S1	Fixed
	heavy							
20	standard	22	Full	R4	ACS800-U1-0030-7	T4L040TW	T6045S1	Fixed
	heavy							
25	standard	27	Full	R4	ACS800-U1-0040-7	T4L050TW	T6045S1	Fixed
	heavy							
30	standard	32	Full	R5	ACS800-U1-0050-7	T4L100BW	T6045S1	Fixed
	heavy							
40	standard	41	Full	R5	ACS800-U1-0060-7	T4L100BW	T6045S1	Fixed
	heavy							
50	standard	52	Full	R6	ACS800-U1-0070-7	T4L100BW	T6045S1	Fixed
	heavy							
60	standard	62	Full	R6	ACS800-U1-0100-7	T4L150BW	T6045S1	Fixed
	heavy							
75	standard	77	Full	R6	ACS800-U1-0120-7	T4L150BW	T6045S1	Fixed
	heavy							
100	standard	99	Full	R6	ACS800-U1-0145-7	T4L250BW	T6045S1	Fixed
	heavy							
125	standard	125	Full	R6	ACS800-U1-0175-7	T4L250BW	T6045S1	Fixed
	heavy							
150	standard	-	Full	R6	ACS800-U1-0205-7	T4L250BW	T6045S1	Fixed
	heavy (n/a)							

\*Note: standard duty drives rated for 110% nominal current for 1 minute, heavy duty drives rated for 150% nominal current for 1 minute

# Components of Units

## Terminal Blocks

ABB uses a unique terminal block system for each of the withdrawable units that creates the connection between the unit and the external terminal without any additional wiring. The terminal plugs consist of two-pole individual elements that are supplied as a completely labeled, 12-pole or a 24-pole terminal block assembly.

### Control Terminal Technical Data

Rated Voltage	300V
Rated Current/Pole	10A
Tightening Torque	0.8 Nm
Maximum Temperature Limit	105° C
Fire Rating	UL 486
Connection Type	Clamp Terminal
(Per Pole)	(2) Spade Terminals
Wire Range	22-10 awg

### Control Terminal Quantities

Type of starter	No. of terminals (Standard)
FVNR	12
FVR	24
2S1W	24
2S2W	24
Softstarter	24
VFD	24

Note: 32 terminals as maximum for units 18E and larger

## Pilot Devices/Selector Switches

The MNS-MCC utilizes ABB 30 mm metal bezel pilot devices mounted on the unit door. The push functions available are: Start/Stop, Stop/Rev/Fwd, Stop/Slow/Fast. The following functions are available on selector switches: H/O/A, Fwd/Rev/Off/Auto, Fast/Slow/Off/Auto. Indicating lamps are also available in Red, Green, and Yellow. Nameplates are provided standard on all pilot devices. See the table on this page for the maximum number of pilot devices available with various unit types and sizes.



ABB 30mm Metal Bezel Pilot Devices

	Size door	Maximum number of selectors and push	Maximum number of pilot devices
Starters	6E	1 Selector	1
	12E	1 Selector	1, 2 or 3
	18E to Full section	2 Push buttons	1 or 2
Softstarters	24E to Full section	1 Selector	1, 2 or 3
		2 Push buttons	1, 2 or 3
		3 Push buttons	1, 2 or 3
VFD	12E	1 Selector with Keypad	1, 2 or 3
		Keypad	1, 2 or 3
	18E and 24E	Keypad	1
		1 Selector with speed pot	1
30E to Full section	Keypad	1, 2 or 3	
	1 Selector with speed pot	1, 2 or 3	

### Pilot devices

#### (Configuration options)

Green OFF  
 Green ON  
 Red OFF  
 Red ON  
 Yellow OL TRIP  
 Red OFF + Green ON  
 Red ON + Green OFF  
 Red OFF + Yellow OL TRIP  
 Red OFF + Green ON +  
 Yellow OL TRIP  
 Red ON + Green OFF +  
 Yellow OL TRIP

### Push buttons

#### (Configuration options)

Hand-Off-Auto (HOA)  
 Hand-Off-Auto + Keypad  
 Keypad only  
 Rev-Off-Auto-Fwd  
 Rev-Off-Auto-Fwd + Keypad  
 Slow-Off-Auto-Fast  
 Slow-Off-Auto-Fast + Keypad  
 Start + Stop  
 Stop + Rev + Fwd  
 Stop + Slow + Fast

# Components of Units

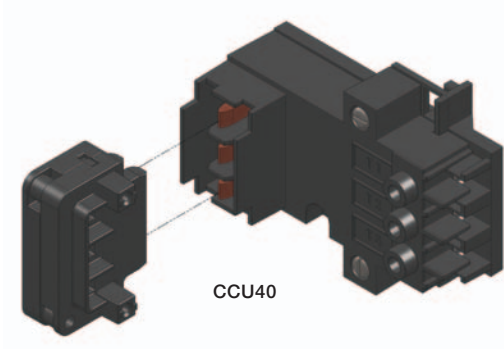
## Load Terminal Blocks

The CCU40 and CCU300 connectors are used as load-side terminal blocks for withdrawable units. With the CCU connectors, the connection to a unit's output is made in the vertical wireway, further eliminating the need to perform work inside the withdrawable unit.

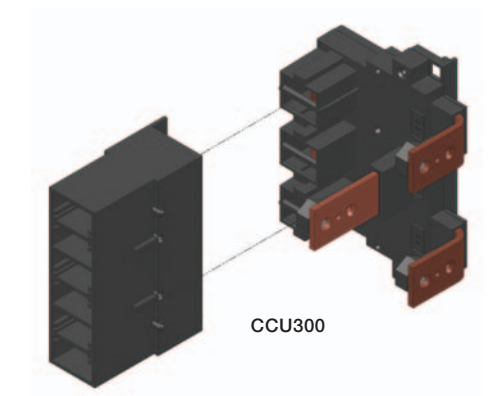
The CCU40 and CCU300 each consist of two parts. The stationary part is mounted to the MCC frame in the vertical wireway, and the movable part is installed in the withdrawable MCC unit. Connections between movable and stationary parts are made when the unit is plugged in.

The CCU40 is used for load currents less than 50A, and is rated for 600V. It will accept wire sizes from 12AWG up to 6AWG.

The CCU300 is used for load currents less than 300A, and is also rated for 600V. Connections to the CCU300 are made with standard compression lugs bolted to an extended bus bar. An acrylic protective cover is provided.



CCU40



CCU300

## Control Power Transformer

### Description

- Epoxy encapsulated coils up through 750VA
- Epoxy resin impregnated coils from 1 kVA to 5 kVA
- Provides stepped down voltages for machine tool control devices and industrial control panels
- Laminations of high-quality silicon steel
- Minimum core loss
- Optimized performance
- Copper magnet wire providing the highest quality and efficient operation
- Molded-in terminals
- 80°C rise, 130°C insulation system
- 50/60 Hz
- UL File # E175311
- CSA File #LR27533
- IP 20 Touch safe covers available as an option

For further information please see product catalog: Product Selector 1SXU0000023C0202 or visit website at <http://www.abb.us>

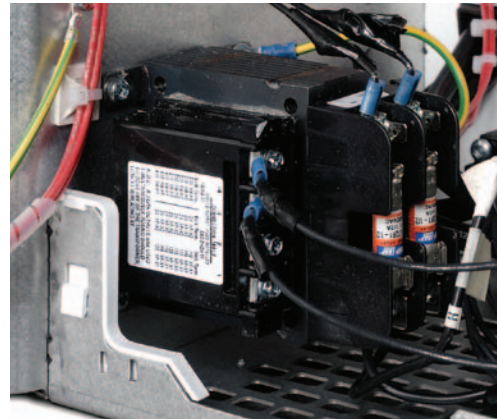


ABB Control Power Transformer

**X 4 100 PS F1 /C**

T - Industrial control transformer  
X - New generation industrial control transformer

Primary voltage rating ☉  
4 - 460V, 230V & 208V  
6 - 575V & 600V

VA rating  
045 = 45VA 350 = 350VA  
050 = 50VA 500 = 500VA  
075 = 75VA 750 = 750VA  
100 = 100VA 1K = 1000VA  
150 = 150VA 1.5K = 1500VA  
200 = 200VA 2K = 2000VA  
250 = 250VA 3K = 3000VA  
300 = 300VA 5K = 5000VA

Example: **T4100PSF1**  
• ABB industrial control transformer  
• Primary voltage: 460V, 230V and 208V  
• 100 VA rating  
• Primary & secondary fuse blocks provided  
• Secondary voltage 115/24V  
• Optional IP 20 terminal covers

Option ☉  
Add \$15 to list price

IP 20 Terminal covers  
Meets finger safe or touch safe requirements for IEC specification 529. Available 50VA thru 750VA

Secondary voltage(s) ☉  
F = 24V  
1 = 115V  
F1 = 115/24V dual secondary ☉

Fuse blocks  
P = primary fuse block (2 pole Class CC, less fuses)  
S = secondary fuse clip (13/32" x 1 1/2", less fuse)

## Contactors

### Application

A-Line and AF contactors are mainly used for controlling 3-phase motors and for controlling power circuits corresponding to their operating characteristics up to 600VAC..

### Description of 3 pole contactors A

All A-line and AF contactors can be assembled side by side. The add-on or built-in auxiliary contacts are suitable for low level currents.

### Control circuit types

- A-line types: AC operated with laminated magnetic circuit.
- AF types: AC/DC operated with laminated magnetic circuit

### Contactor types

- 3 pole contactors with NO or NC built in auxiliary contact for A9-A40 contactors; factory assembled auxiliary contacts for A50-A300
- 4 pole contactors: 4 NO or 2 NO & 2 NC without any auxiliary contacts. (A9-A75)
- 3 pole contactors with 1 NO 1 NC factory assembled auxiliary contacts for AF50-AF1650

For further information, see the 1SXU0000023C0202 Product Selector document or visit [www.abb.us](http://www.abb.us).



## Catalog number explanation

**A9-30-10-84**

**Frame size**

**Power pole**

30 = 3 NO  
40 = 4 NO  
22 = 2 NO & 2 NC

**Coil voltage**

(see coil voltage selection chart)

**Auxiliary contacts**

10 = 1 NO & 0 NC  
01 = 0 NO & 1 NC  
11 = 1 NO & 1 NC  
00 = No auxiliary provided  
22 = 2 NO & 2 NC

### Coil voltage selection chart

Hz	Cntr type	Volts															
		12	24	48	110	120	125	208	220	240	277	380	415	440	480	500	600
60	A		81	83	84	84		34	36	80	42		86	86	51	53	55
50	A		81	83	84				80				85	86			55

For other voltages, see page 1.26.

# Components of Units

## Thermal Overloads

TA thermal overload relays are used with A Line contactors for the protection of motors having a nominal voltage of up to 600VAC max per UL/CSA (690VAC).

## Product range

- Standard relays:  
Types: TA25DU, TA42DU, TA75DU, TA80DU, TA110DU, TA200DU and TA450DU
- TA25 to TA110 and TA200 are directly connected in the motor circuit.
- TA450DU relays are fed through a linear type transformer
- Special construction  
Thermal overload relays with different certifications and approvals.
- Relays for protection EEx e motors.

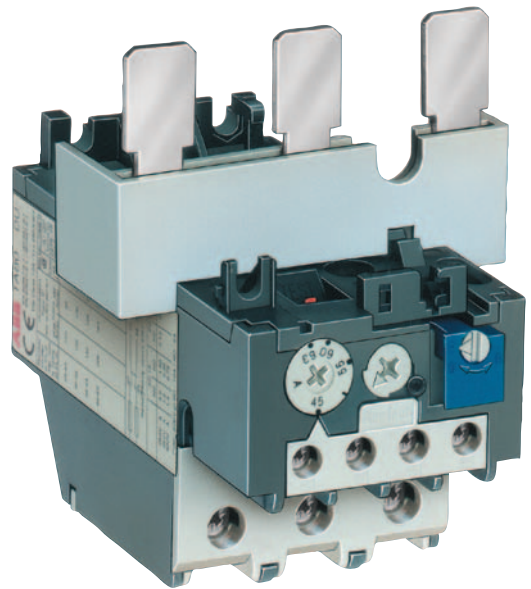
## Construction and function - General

Thermal O/L relays and their accessories meet UL, CSA and most other important international standards (IEC), European standards (EN) and the most important national standards (DINVDE, NFC-UITE, BS, etc.). They meet the certification and approval directives required throughout the world.

Thermal overload relays are 3 pole. The motor current flows through their bimetals (1 per phase) which are indirectly heated. Under the effect of the heating, the bimetals bend; cause the relay to trip and the position of the auxiliary contacts to change. The relay setting range is graduated in amps. In compliance with international and national standards, the setting current is the motor nominal current and not the tripping current (no tripping at 1.05 x setting current, tripping at 1.2 times setting current).

The relays are built to be self protecting in the event of an overload until the short circuit protection device is activated.

For further information, see the 1SXU0000023C0202 Product Selector document or visit [www.abb.us](http://www.abb.us).





### Electronic Overloads Description

- Available for starter construction with A Line contactors and separate panel mounting
- Designed for close couple mounting
- Separate base mounting available for all overload relays
- E16DU Class 10, 20, & 30, field selectable
- E200DU – E800DU Class 10, 20 & 30, field selectable
- Stop button
- Screwdriver guide holes
- All terminal screws are available from the front
- Single phase and phase unbalance protection
- Isolated alarm circuit (N.O.) contact
- Ambient compensation: -25°C to +70°C (-13°F to +158°F)
- Manual test
- Manual or automatic reset
- Factory calibrated and tested
- Wide adjustment range
- UL File No: E48139
- CSA File No: LR98336



For further information, see the 1SXU0000023C0202 Product Selector document or visit [www.abb.us](http://www.abb.us).

# Components of Units

## Softstarters

### Application

The PST range is a microprocessor based softstarter designed with the latest technology for soft start and soft stop of motors. The PST Softstarter has several advanced motor protection features as standard. The four button key pad and the logic structure of the menu make the installation, commissioning and operation easy. It is possible to choose between 14 different languages.

The PST Softstarter can be used with or without a by-pass contactor. The larger sizes, PSTB370 – PSTB1050, include a built-in by-pass contactor.

The PST Softstarter can be selected according to the rated motor power in normal duty applications like pumps, compressors, elevators, escalators, short conveyor belts and bow thrusters.



### Product Range and Offering

- Wide main voltage range, 200 - 690 VAC
- Wide control voltage range, 100 - 250 V, 50/60 Hz
- Current ratings 30 to 1050 A (In Line) and 52 – 1800 A (Inside Delta)
- Same unit can be used for both In Line and Inside Delta connection
- Premium adjustable Softstarter functions like start/stop ramp, kick start, jog, step down voltage and sequential starts
- Current limit adjustable between 200% to 700% of motor FLA
- Thermistor (PTC) supervision of motor winding
- Real time clock

- Logging of last 20 events with time stamp
- Prepared for Field-bus communication
- Programmable electronic overloads: Classes 10A, 10, 20 & 30
- Locked rotor protection
- Motor underload protection
- Phase imbalance protection
- Phase reversal protection
- Torque control
- Analog outputs
- UL File #E161428

### Digital Display

The PST display gives you information presented in plain words – in your language. You can choose between 14 languages including English, German, Italian, Chinese, Finnish, Swedish, French, Spanish, Dutch, Russian, Turkish, Polish, Czech and Portuguese. On the PST display, you get all the information you need to setup, adjust and trouble-shoot. This makes the PST extremely easy to handle and reduces the risk of misinterpretations.

At any time, you can read output current, output voltage, number of starts, total run time and motor temperature on the display. If a fault should occur, this is also indicated on the display. The fault messages are presented in clear text in the selected language.

For further information, see the 1SXU0000023C0202 Product Selector document or visit [www.abb.us](http://www.abb.us).



### Variable Frequency Drives (ACS355)

The ACS355 is designed to be the fastest drive in terms of installation, setting parameters and commissioning.

The ACS355 has been designed to be as user-friendly as possible, yet provide high application flexibility. The ACS355 offers diverse functionality to cater to the most demanding needs.

### Application macros

- 2-wire, 3-wire, Alternate, Motor Potentiometer, Hand/Auto, PID & Torque Control

### Power Range

- 1-phase supply 240V, 0.5 to 3 Hp
- 3-phase supply 240V, 0.5 to 15 Hp
- 3-phase supply 480V, 0.5 to 30 Hp

### Features

- Sensorless Vector Motor Control
- (8) Sequence programming
- Optimized interfaces for users and machines
- Built-in brake chopper as standard
- Built-in 2nd environment EMC filter
- IP 20 (Finger Safe)

### Highlights/Options

- NEMA 1 Enclosure Kit
- UL, cUL approved
- FlashDrop with DrivePM (Parameter Manager)
- MPOT (Speed Pot, Start/Stop & Fwd/Rev Switch)
- Modbus, Modbus TCP, EtherNet IP, Profibus, DeviceNet, CAN
- Unified height and depth
- Coated boards as standard
- Pulse train frequency input
- I/O (2 AI, 2AO, 5 DI, 1 RO, 1DO)

Please refer to the Drive Selection Guide LVD-PHPG01U-EN for further information or visit the website at [www.abb.us](http://www.abb.us).



# Components of Units

## Variable Frequency Drives (ACS550)

The ABB ACS550 has common user and process interface with fieldbus, common software tools for sizing, commissioning, maintenance and common spare parts.

The ABB ACS550 is ideal for those situations where there is a need for simplicity to install, commission and use and where customizing or special product engineering is not required.

## Application macros

- ABB standard, 3-wire, Alternate, Motor Potentiometer, Hand/ Auto, PID, PFC & Torque Control

## Power Range

- 3-phase supply 240V, 1 to 100 Hp
- 3-phase supply 480V, 1.5 to 550 Hp
- 3-phase supply 600V, 2 to 150 HP

## Features

- IP21 (NEMA 1) & IP54 (NEMA 12)
- Scalar, Open Loop, and Closed Loop Vector
- Built-in brake chopper up to 15Hp
- Built-in 1st environment EMC filter

## Highlights/Options

- UL, cUL approved (600V product is CSA only)
- FlashDrop with DrivePM (Parameter Manager)
- Start-up Assistants (Diagnostic, Maintenance, Start-up, PID Controller, Real-time Clock, Serial Comm, Drive Optimizer)
- DeviceNet, ControlNet, Profibus, Modbus TCP, EtherNet IP, CAN Open, ProfiNet IO
- Patented swinging choke for superior harmonic reduction
- Coated boards as standard
- Flange Mounting
- I/O (2 AI, 2 AO, 6 DI, 3 RO)

Please refer to the Drive Selection Guide LVD-PHPG01U-EN for further information or visit the website at [www.abb.us](http://www.abb.us).



### Variable Frequency Drives (ACS800)

The ACS800 family of AC drives offers a wide range of products with common technologies. This includes Start-up Assistant, Adaptive Programming and DTC- Direct Torque Control, common user and process interfaces, software tools for sizing, commissioning and maintenance with common spare parts.

The heart of the ACS800 is DTC, ABB's premier motor control technology. The consistently excellent performance of the ACS800 assures that this drive will not be limiting factor in your process.

### Application macros

- ABB standard, 3-wire, Alternate, Motor Potentiometer, Hand/ Auto, PID, PFC & Torque Control

### Power Range

- 3-phase supply 240V, 1 to 100 Hp
- 3-phase supply 480V, 1.5 to 550 Hp
- 3-phase supply 600V, 2 to 150 HP

### Features

- IP21 (NEMA 1) & IP54 (NEMA 12)
- Scalar, Open Loop, and Closed Loop Vector
- Built-in brake chopper up to 15Hp
- Built-in 1st environment EMC filter

### Highlights/Options

- UL, cUL approved (600V product is CSA only)
- FlashDrop with DrivePM (Parameter Manager)
- DeviceNet, ControlNet, Profibus, Modbus TCP, EtherNet IP, CAN Open, ProfiNet IO
- Patented swinging choke for superior harmonic reduction
- Coated boards as standard
- Flange Mounting
- I/O (2 AI, 2 AO, 6 DI, 3 RO)

Please refer to the Drive Selection Guide LVD-PHPG01U-EN for further information or visit the website at [www.abb.us](http://www.abb.us).



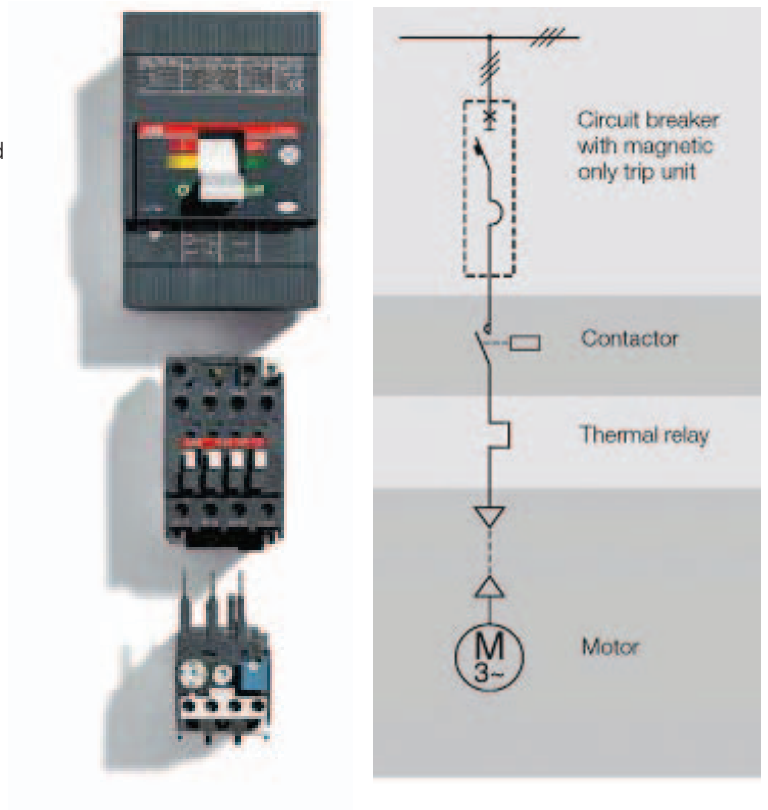
# Components of Units

## TMAX Circuit Breakers

The circuit breakers utilized as disconnecting means in the MNS-MCC are ABB Tmax molded case breakers. The Tmax are UL489 certified and offer the following features:

- Double insulation – this construction characteristic allows for the UL listed field installation for the UL Listed field installation of internal accessories without exposure to energized parts.
- Complete range of electrical and mechanical accessories.
- Positive operation – breakers from ABB ensure that the toggle indicates precise position of the moving contacts. This provides a level of safety and reliability signaling of the device.
- Interrupting ratings at 480VAC up to 150kAIC.
- Compact Size.

There are two types of molded case breakers used in the units of an MNS-MCC: MCP and Thermal Magnetic type. The MCP circuit breakers are used to protect three phase asynchronous motors in combination with a contactor and a thermal overload relay.



## EMAX Circuit Breakers

All Emax power circuit breakers have as a minimum the following features:

- Manual charging lever and “Charged” indication
- Manual Open/Close push buttons
- Mechanical “Open”/“Closed” indication
- Mechanical signaling of “Overcurrent” release
- 4 Auxiliary contacts

Additional options are available for project specific requirements:

- Shunt opening/closing release
- Spring Charging Motor
- Closing Coil
- Bell Alarm and contact
- Undervoltage release
- Additional auxiliary contacts (10 or 15)
- Key locking
- Shutter padlocking
- Button Guard and Padlocking provisions
- Mechanical Operation Counter
- Configuration and test unit

In addition, the Emax circuit breaker offers three different types of trip units: PR121, PR122, and PR123. Each of the trip units offers a combination of protection functions that may be selected such as:

- Overload protection – L
- Selective short circuit protection – S
- Instantaneous short circuit protection – I
- Ground Fault - G

The trip units also allow for modular accessories to be installed on the PR122 and PR123 in order to provide additional functions. Those modules are:

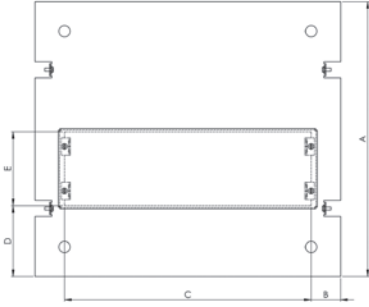
- PR120/V – Measurement module (Provides metering capabilities)
- PR120/D-M – Modbus Communication module (Provides communication capabilities to the trip unit)
- PR120/K – Signaling module (Provides four independent power relays to enable electrical signaling of the following: timing for protections L, S, G, and protections for L, S, I, G, etc. and other events)

For further information please refer to Emax Technical Catalog – 1SDC200005D0201 or visit our website at [www.abb.us](http://www.abb.us).

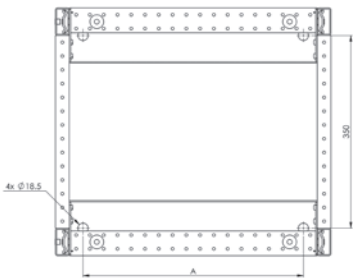


# Layouts

## MCC Floor Cutouts

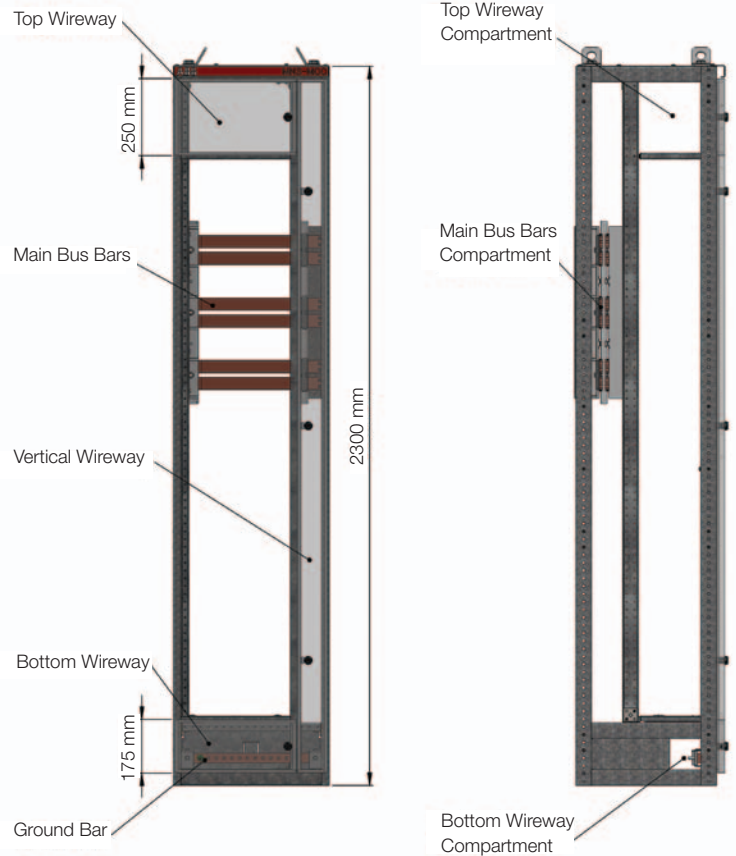


Dimension		Size (mm)
<b>Bottom Conduit Entry</b>		
A		446
B		48
D		115
E		120
Section Width (mm)	Conduit Opening	
500	C	400
600	C	500
700	C	600
800	C	700
900	C	800
1000	C	900
1200	C	1100

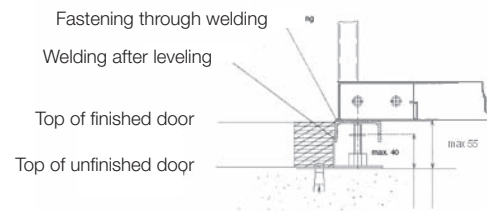


Anchoring Base		
Section Width (mm)	Distance Holes	
500	A	400
600	A	500
700	A	600
800	A	700
900	A	800
1000	A	900
1200	A	1100

## MCC Mounting



Notes: Use four bolts per vertical section to fasten the MCC through its internal mounting angles to the foundation. Use HSL3 M8/20 or hex bolt M8X20 Grade 8.8 depending on the mounting surface. See the illustrations and tables for general dimensions. Exact dimensions matching your equipment can be found on the elevation drawings shipped with your MCC. Installing switchgear with bottom cable entries requires a foundation with an opening or cable duct. The sections should be installed on a base frame that is either embedded in the concrete floor or rests as a false floor on supports.











# Contact us

## USA

**ABB Inc.**  
**Low Voltage Products & Systems**  
3700 W Sam Houston Pkwy S  
Houston, TX 77042  
Toll Free: 1 888 385-1221

**ABB Inc.**  
**Low Voltage Products & Systems**  
400 Crown Colony Drive, Suite 303  
Quincy, MA 02169

[www.abb.us/lowvoltage](http://www.abb.us/lowvoltage)

## Canada

**ABB Inc.**  
**Low Voltage Products & Systems**  
2117 - 32e Avenue  
Lachine, QC H8T 3J1  
Tel.: 1 514 420-3100  
Toll Free: 1 800 567-0283  
Fax: 1 514 420-3137  
[lvs.rfq@ca.abb.com](mailto:lvs.rfq@ca.abb.com)

**ABB Inc.**  
**Low Voltage Products & Systems**  
201 Westcreek Blvd.  
Brampton, ON L6T 5S6  
Tel.: 1 905 460-3000  
Fax: 1 905 460-3395

**ABB Inc.**  
**Low Voltage Products & Systems**  
110, 4411-6th Avenue S.E.  
Calgary, AB T2G 4E8  
Tel.: 1 403 278-7111  
Fax: 1 403 278-8232

[www.abb.ca/lowvoltage](http://www.abb.ca/lowvoltage)

## Mexico

**ABB Mexico, S.A. de CV.**  
**Low Voltage Systems**  
Av. Central No. 405, Parque Logístico  
C.P. 78395, San Luis Potosí, SLP  
Tel.: +52 444 8708 000

While all care has been taken to ensure that the information contained in this publication is correct, no responsibility can be accepted for any inaccuracy. The Company reserves the right to alter or modify the information contained herein at any time in the light of technical or other developments. Technical specifications are valid under normal operating conditions only. The Company does not accept any responsibility for any misuse of the product and cannot be held liable for indirect or consequential damages.

©Copyright 2012 ABB Inc. All rights reserved.