

# Selecting reduced voltage soft starters based on NEMA standard starter ratings



## Application

Reduced voltage solid-state soft starters may be selected based on NEMA®-sized starters for motor applications at various voltages.

## Overview

Soft starter sizing is determined by the horsepower or kW rating of the motor, coupled with the mains operating voltage. In an established installation that uses a NEMA-rated starter, a replacement soft starter may be selected based on the NEMA size of the starter. This method will not directly reflect criteria such as full load amperage (FLA) of the motor, motor service factors, and the maximum allowable number of starts per hour of the system, which are key factors when selecting a suitable soft starter or soft start controller. Please note that this method may not necessarily take into account severe-duty applications or other extenuating circumstances such as the specific operating characteristics of the motor or motors that are of higher efficiencies.

**Note:** Selection based solely on NEMA horsepower starter sizing may result in selection of a soft starter with a maximum current capacity that is lower than the NEMA-rated starter.

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**Table 1. 200V Soft Starter or Soft Start Controller Selection**

NEMA Size	NEMA Continuous Amp Rating	Max. hp Full Voltage Starter	S811+ Series	DS6 Series
00	9	1.5	Not Available	<b>DS6-34DSX041N0-N</b>
0	18	3	<b>S811+N37xxx</b>	<b>DS6-34DSX041N0-N</b>
1	27	7.5	<b>S811+N37xxx</b>	<b>DS6-34DSX041N0-N</b>
2	45	10	<b>S811+N37xxx</b>	<b>DS6-34DSX041N0-N</b>
3	90	25	<b>S811+R10xxx</b>	<b>DS6-34DSX081N0-N</b>
4	135	40	<b>S811+T18xxx</b>	<b>DS6-34DSX134N0-N</b>
5	270	75	<b>S811+T30xxx</b>	Not Available
6	540	150	<b>S811+V50xxx</b>	Not Available

**Note:** Conversion chart is based on a motor service factor of 1.15.

**Table 2. 230V Soft Starter or Soft Start Controller Selection**

NEMA Size	NEMA Continuous Amp Rating	Max. hp Full Voltage Starter	S811+ Series	DS6 Series
00	9	1.5	Not Available	<b>DS6-34DSX041N0-N</b>
0	18	3	Not Available	<b>DS6-34DSX041N0-N</b>
1	27	7.5	<b>S811+N37xxx</b>	<b>DS6-34DSX041N0-N</b>
2	45	15	<b>S811+N66xxx</b>	<b>DS6-34DSX068N0-N</b>
3	90	30	<b>S811+R10xxx</b>	<b>DS6-34DSX099N0-N</b>
4	135	50	<b>S811+T18xxx</b>	<b>DS6-34DSX134N0-N</b>
5	270	100	<b>S811+T30xxx</b>	Not Available
6	540	200	<b>S811+V65xxx</b>	Not Available
7	810	300	<b>S811+V85xxx</b>	Not Available

**Note:** Conversion chart is based on a motor service factor of 1.15.

**Table 3. 460V Soft Starter or Soft Start Controller Selection**

NEMA Size	NEMA Continuous Amp Rating	Max. hp Full Voltage Starter	S811+ Series	DS6 Series
00	9	2	Not Available	<b>DS6-34DSX041N0-N</b>
0	18	5	Not Available	<b>DS6-34DSX041N0-N</b>
1	27	10	<b>S811+N37xxx</b>	<b>DS6-34DSX041N0-N</b>
2	45	25	<b>S811+N66xxx</b>	<b>DS6-34DSX041N0-N</b>
3	90	50	<b>S811+R10xxx</b>	<b>DS6-34DSX068N0-N</b>
4	135	100	<b>S811+T18xxx</b>	<b>DS6-34DSX134N0-N</b>
5	270	200	<b>S811+T30xxx</b>	Not Available
6	540	400	<b>S811+V65xxx</b>	Not Available
7	810	600	<b>S811+V85xxx</b>	Not Available

**Note:** Conversion chart is based on a motor service factor of 1.15.

**Table 4. Supporting Documentation**

Manuals	Reference Number
S811+ User Manual	MN03900001E
DS6 Catalog	CA03901001E
DS6 Instructional Leaflet	IL03901001E
Program files	None
Outline drawings	None

## Additional Help

In the event that additional help is needed, please contact the Technical Resource Center at 1-877-ETN-CARE, Option 2, Sub Option 2.

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