

Note: Always refer to motor plate FLA and ensure that the motor plate FLA is equal to or lower than the maximum current value in the tables.

S611



Heavy Duty—500% FLA for 30 Seconds, 125% Continuous

Maximum Current (Amps)	Horsepower Rating				Catalog Number
	208V	240V	480V	600V	
49	15	15	40	50	S611A052N3S
83	25	30	60	75	S611B099N3S
142	40	60	125	150	S611C156N3S
225	75	75	200	200	S611D242N3S
256	75	100	200	250	S611E361N3S
285	100	125	250	300	S611F414N3S

Severe Duty—600% FLA for 30 Seconds, 125% Continuous

Maximum Current (Amps)	Horsepower Rating				Catalog Number
	208V	240V	480V	600V	
41	10	15	30	40	S611A052N3S
69	20	30	60	60	S611B099N3S
117	30	50	100	125	S611C180N3S
187	60	75	150	200	S611D242N3S
213	75	75	150	200	S611E361N3S
238	75	100	200	250	S611F414N3S

Accessories

Optional Accessory Kits

Description	S611 Current Rating	Accessory Kit Part Number
User interface remote mounting kit—3.28 ft (1m)	52–414A	S611-RMK-100
User interface remote mounting kit—6.56 ft (2m)	52–414A	S611-RMK-200
User interface remote mounting kit—9.84 ft (3m)	52–414A	S611-RMK-300
User interface communication cable—3.28 ft (1m)	52–414A	D77E-QPIP100
User interface communication cable—6.56 ft (2m)	52–414A	D77E-QPIP200
User interface communication cable—9.84 ft (3m)	52–414A	D77E-QPIP300
Lug kit—mechanical	52–77A	S611-LUG-M01
	99–125A	S611-LUG-M02
	156–242A	S611-LUG-M03
	302–414A	S611-LUG-M04

Options**Pump Control**

For pump control option, change the **8th** digit in the Catalog Number to **P**, as in S611XXX**P**3S.

Replacement Parts**S611 Replacement Components**

Description	Part Number
User interface	S611-KEYPAD
User interface communication cable—0.25m (0.82 ft)	D77E-QPIP25
Control board assembly—52A standard	S611-PCB-052S
Control board assembly—65A standard	S611-PCB-065S
Control board assembly—77A standard	S611-PCB-077S
Control board assembly—99A standard	S611-PCB-099S
Control board assembly—125A standard	S611-PCB-125S
Control board assembly—156A standard	S611-PCB-156S
Control board assembly—180A standard	S611-PCB-180S
Control board assembly—242A standard	S611-PCB-242S
Control board assembly—302A standard	S611-PCB-302S
Control board assembly—361A standard	S611-PCB-361S
Control board assembly—414A standard	S611-PCB-414S
Control board assembly—52A pump	S611-PCB-052P
Control board assembly—65A pump	S611-PCB-065P
Control board assembly—77A pump	S611-PCB-077P
Control board assembly—99A pump	S611-PCB-099P
Control board assembly—125A pump	S611-PCB-125P
Control board assembly—156A pump	S611-PCB-156P
Control board assembly—180A pump	S611-PCB-180P
Control board assembly—242A pump	S611-PCB-242P
Control board assembly—302A pump	S611-PCB-302P
Control board assembly—361A pump	S611-PCB-361P
Control board assembly—414A pump	S611-PCB-414P
Frame A/B CT	S611-CT-AB
Frame C/D CT	S611-CT-CD
Frame E/F CT	S611-CT-EF
Contactor assembly—52–180A	C25DNY172
Contactor assembly—242–414A	C25DNY173

Technical Data and Specifications

Soft Starters—S611

Description		S611 Soft Starter (Partial Catalog Number)			
		S611A052	S611A065	S611A072	S611B099
Max. current capacity	A	52	65	77	99
FLA range	A	26–52	32.5–65	38.5–77	48–99
Dimensions					
Width	inch (mm)	11.58 (294)	11.58 (294)	11.58 (294)	11.58 (294)
Height	inch (mm)	19.45 (494)	19.45 (494)	19.45 (494)	19.45 (494)
Depth	inch (mm)	7.46 (189)	7.46 (189)	7.46 (189)	7.46 (189)
Weight	lb (kg)	24 (11)	24 (11)	24 (11)	24 (11)
General Information					
Bypass mechanical lifespan		10M	10M	10M	10M
Insulating voltage	V	660	660	660	660
Ramp time range	Seconds	0.5–180	0.5–180	0.5–180	0.5–180
Vibration resistance—non-operating	g	3g up to 242A units, 2g on 302A to 414A units	3g up to 242A units, 2g on 302A to 414A units	3g up to 242A units, 2g on 302A to 414A units	3g up to 242A units, 2g on 302A to 414A units
Vibration resistance—operating	g	1	1	1	1
Shock resistance	g	15g up to 242A units, 5g on 302A to 414A units	15g up to 242A units, 5g on 302A to 414A units	15g up to 242A units, 5g on 302A to 414A units	15g up to 242A units, 5g on 302A to 414A units
Electrical Information					
Operating voltage	V	130–600	130–600	130–600	130–600
Operating frequency	Hertz	47–63	47–63	47–63	47–63
Overload setting (frame)	% FLA	50–100	50–100	50–100	50–100
Trip class		5, 10, 20, 30	5, 10, 20, 30	5, 10, 20, 30	5, 10, 20, 30
Cabling Capacity (IEC 947)					
Number of conductors		1	1	1	1
Wire sizes	AWG	14–2/0	14–2/0	14–2/0	14–2/0
Type of connectors		Lug	Lug	Lug	Lug
Control Wiring					
Wire sizes	AWG	22–12	22–12	22–12	22–12
Number of conductors		2 (or one 12–14 AWG)	2 (or one 12–14 AWG)	2 (or one 12–14 AWG)	2 (or one 12–14 AWG)
Torque requirements	lb-in	3.5	3.5	3.5	3.5
Maximum size	AWG	12	12	12	12
Control Power Requirements					
Voltage range (120V ±10%)	V	108–132	108–132	108–132	108–132
Steady state current	A	0.375	0.375	0.375	0.375
Inrush current	A	0.5	0.5	0.5	0.5
Ripple	%	1	1	1	1
Relays (1) Class A and C					
Voltage AC—maximum	V	120	120	120	120
Voltage DC—maximum	V	24	24	24	24
Amps—maximum	A	3	3	3	3
Environment					
Temperature—operating	°C	–20° to 50°C	–20° to 50°C	–20° to 50°C	–20° to 50°C
Temperature—storage	°C	–40° to 85°C	–40° to 85°C	–40° to 85°C	–40° to 85°C
Altitude	Meters	<2000m, derate 0.5% per 100m >2000m	<2000m, derate 0.5% per 100m >2000m	<2000m, derate 0.5% per 100m >2000m	<2000m, derate 0.5% per 100m >2000m
Humidity	%	<95% non-condensing	<95% non-condensing	<95% non-condensing	<95% non-condensing
Operating position		Vertical, line side up	Vertical, line side up	Vertical, line side up	Vertical, line side up
Pollution degree IEC947-1		3	3	3	3
Impulse withstand voltage IEC947-4-1	V	6000	6000	6000	6000

Soft Starters—S611, continued

Description		S611 Soft Starter (Partial Catalog Number)			
		S611B125	S611C156	S611C180	S611D242
Max. current capacity	A	125	156	180	242
FLA range	A	62.5–125	78–156	90–180	120–242
Dimensions					
Width	inch (mm)	11.58 (294)	11.58 (294)	11.58 (294)	11.58 (294)
Height	inch (mm)	19.45 (494)	20.83 (529)	20.83 (529)	20.83 (529)
Depth	inch (mm)	7.46 (189)	8.37 (213)	8.37 (213)	8.37 (213)
Weight	lb (kg)	24 (11)	33 (15)	33 (15)	38 (17)
General Information					
Bypass mechanical lifespan		10M	10M	10M	10M
Insulating voltage	V	660	660	660	660
Ramp time range	Seconds	0.5–180	0.5–180	0.5–180	0.5–180
Vibration resistance—non-operating	g	3g up to 242A units, 2g on 302A to 414A units	3g up to 242A units, 2g on 302A to 414A units	3g up to 242A units, 2g on 302A to 414A units	3g up to 242A units, 2g on 302A to 414A units
Vibration resistance—operating	g	1	1	1	1
Shock resistance	g	15g up to 242A units, 5g on 302A to 414A units	15g up to 242A units, 5g on 302A to 414A units	15g up to 242A units, 5g on 302A to 414A units	15g up to 242A units, 5g on 302A to 414A units
Electrical Information					
Operating voltage	V	130–600	130–600	130–600	130–600
Operating frequency	Hertz	47–63	47–63	47–63	47–63
Overload setting (frame)	% FLA	50–100	50–100	50–100	50–100
Trip class		5, 10, 20, 30	5, 10, 20, 30	5, 10, 20, 30	5, 10, 20, 30
Cabling Capacity (IEC 947)					
Number of conductors		1	1	1	1
Wire sizes	AWG	2–600 kcmil	2–600 kcmil	2–600 kcmil	2–600 kcmil
Type of connectors		Lug	Lug	Lug	Lug
Control Wiring					
Wire sizes	AWG	22–12	22–12	22–12	22–12
Number of conductors		2 (or one 12–14 AWG)	2 (or one 12–14 AWG)	2 (or one 12–14 AWG)	2 (or one 12–14 AWG)
Torque requirements	lb-in	3.5	3.5	3.5	3.5
Maximum size	AWG	12	12	12	12
Control Power Requirements					
Voltage range (120V ±10%)	V	108–132	108–132	108–132	108–132
Steady state current	A	0.375	0.375	0.375	0.375
Inrush current	A	0.5	0.5	0.5	0.5
Ripple	%	1	1	1	1
Relays (1) Class A and C					
Voltage AC—maximum	V	120	120	120	120
Voltage DC—maximum	V	24	24	24	24
Amps—maximum	A	3	3	3	3
Environment					
Temperature—operating	°C	–20° to 50°C	–20° to 50°C	–20° to 50°C	–20° to 50°C
Temperature—storage	°C	–40° to 85°C	–40° to 85°C	–40° to 85°C	–40° to 85°C
Altitude	Meters	<2000m, derate 0.5% per 100m >2000m	<2000m, derate 0.5% per 100m >2000m	<2000m, derate 0.5% per 100m >2000m	<2000m, derate 0.5% per 100m >2000m
Humidity	%	<95% non-condensing	<95% non-condensing	<95% non-condensing	<95% non-condensing
Operating position		Vertical, line side up	Vertical, line side up	Vertical, line side up	Vertical, line side up
Pollution degree IEC947-1		3	3	3	3
Impulse withstand voltage IEC947-4-1	V	6000	6000	6000	6000

Soft Starters—S611, continued

Description		S611 Soft Starter (Partial Catalog Number)		
		S611E302	S611E361	S611F414
Max. current capacity	A	302	361	414
FLA range	A	151–302	180.5–361	207–414
Dimensions				
Width	inch (mm)	17.56 (446)	17.56 (446)	17.56 (446)
Height	inch (mm)	31.15 (791)	31.15 (791)	31.15 (791)
Depth	inch (mm)	9.54 (242)	9.54 (242)	9.54 (242)
Weight	lb (kg)	86 (39)	86 (39)	102 (46)
General Information				
Bypass mechanical lifespan		10M	10M	10M
Insulating voltage	V	660	660	660
Ramp time range	Seconds	0.5–180	0.5–180	0.5–180
Vibration resistance—non-operating	g	3g up to 242A units, 2g on 302A to 414A units	3g up to 242A units, 2g on 302A to 414A units	3g up to 242A units, 2g on 302A to 414A units
Vibration resistance—operating	g	1	1	1
Shock resistance	g	15g up to 242A units, 5g on 302A to 414A units	15g up to 242A units, 5g on 302A to 414A units	15g up to 242A units, 5g on 302A to 414A units
Electrical Information				
Operating voltage	V	130–600	130–600	130–600
Operating frequency	Hertz	47–63	47–63	47–63
Overload setting (frame)	% FLA	50–100	50–100	50–100
Trip class		5, 10, 20, 30	5, 10, 20, 30	5, 10, 20, 30
Cabling Capacity (IEC 947)				
Number of conductors		2	2	2
Wire sizes	AWG	2–600 kcmil	2–600 kcmil	2–600 kcmil
Type of connectors		Lug	Lug	Lug
Control Wiring				
Wire sizes	AWG	22–12	22–12	22–12
Number of conductors		2 (or one 12–14 AWG)	2 (or one 12–14 AWG)	2 (or one 12–14 AWG)
Torque requirements	lb-in	3.5	3.5	3.5
Maximum size	AWG	12	12	12
Control Power Requirements				
Voltage range (120V ±10%)	V	108–132	108–132	108–132
Steady state current	A	0.75	0.75	0.75
Inrush current	A	1	1	1
Ripple	%	1	1	1
Relays (1) Class A and C				
Voltage AC—maximum	V	120	120	120
Voltage DC—maximum	V	24	24	24
Amps—maximum	A	3	3	3
Environment				
Temperature—operating	°C	–20° to 50°C	–20° to 50°C	–20° to 50°C
Temperature—storage	°C	–40° to 85°C	–40° to 85°C	–40° to 85°C
Altitude	Meters	<2000m, derate 0.5% per 100m >2000m	<2000m, derate 0.5% per 100m >2000m	<2000m, derate 0.5% per 100m >2000m
Humidity	%	<95% non-condensing	<95% non-condensing	<95% non-condensing
Operating position		Vertical, line side up	Vertical, line side up	Vertical, line side up
Pollution degree IEC947-1		3	3	3
Impulse withstand voltage IEC947-4-1	V	6000	6000	6000

1.2

Reduced Voltage Motor Starters

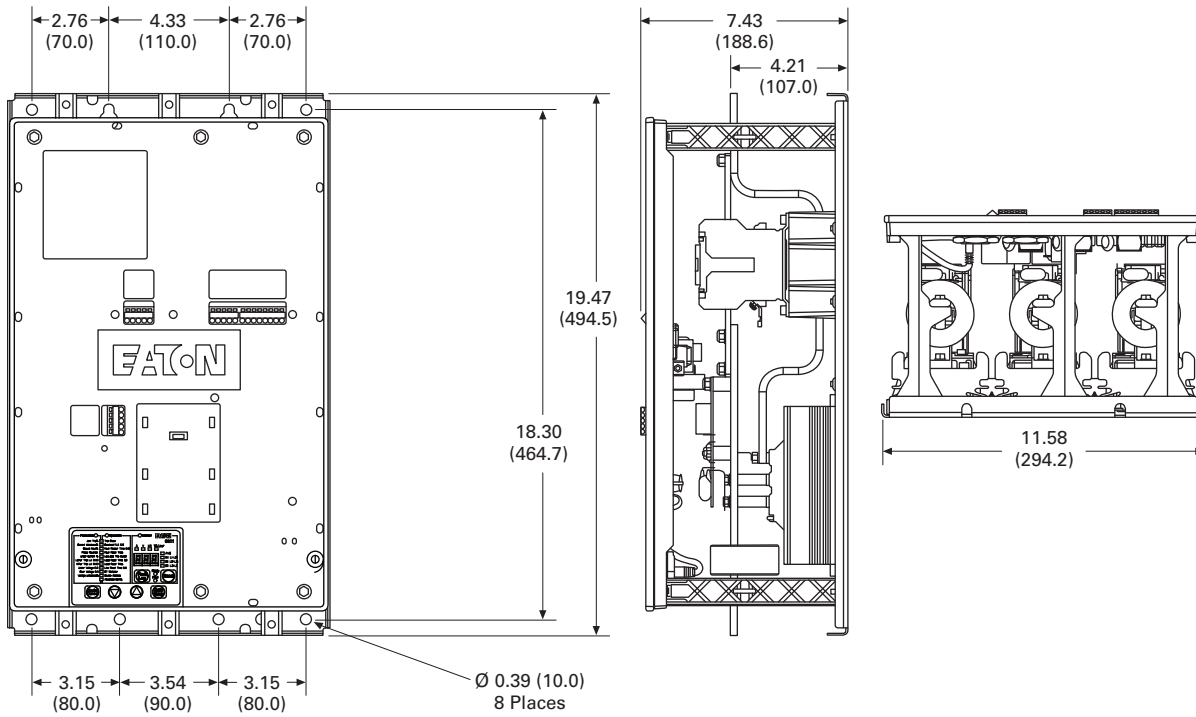
Solid-State Starters

1

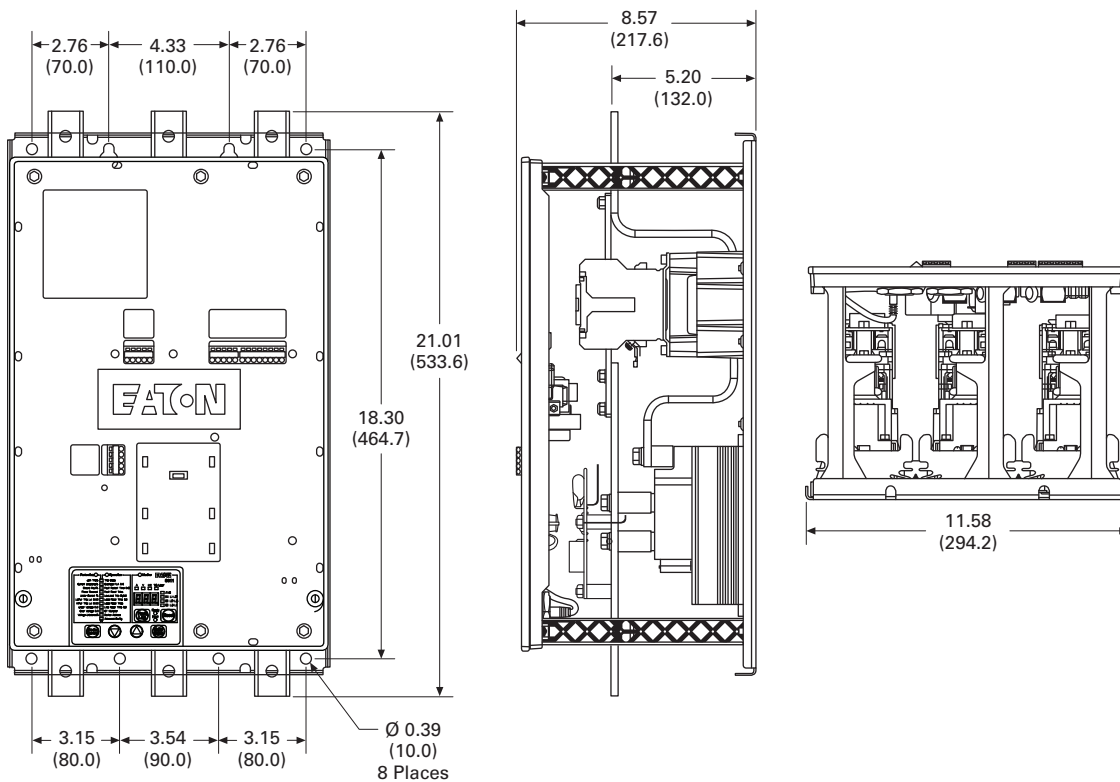
Dimensions

Approximate Dimensions in inches (mm)

A and B Frame

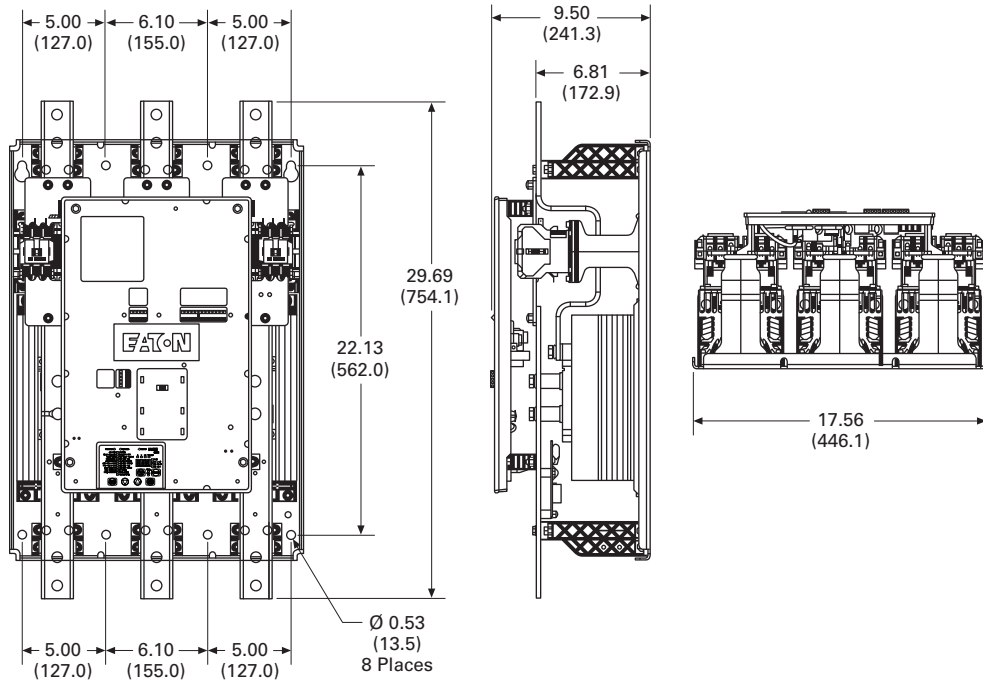


C and D Frame



Approximate Dimensions in inches (mm)

E and F Frame



Type S801, Soft Starters



Type S801, Soft Starters

Product Description

Eaton's S801 line of reduced voltage soft starters is very compact, multi-functional, easy to install and easy to program. Designed to control acceleration and deceleration of three-phase motors, the line is available for current ranges from 11A all the way through 1000A applications, and is suitable for mounting in motor control centers or in enclosed control (NEMA 1, 4, 4X and 12) applications.

Application Description

The S801 line of soft starters is designed to be the smallest, most compact soft starter in the market today. With this small size, it can easily fit in place of existing soft starter designs, wye-delta starters or across-the-line NEMA and IEC starters. This feature allows easy retrofits of existing motor control centers or enclosures, and saves the expense of replacing existing structure or adding a new one to house a soft starter.

Contents

Description

	<i>Page</i>
Type S611, Solid-State Soft Starters	V6-T1-39
Type S801, Soft Starters	
Operation	V6-T1-57
Features	V6-T1-59
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Standards and Certifications	V6-T1-59
Catalog Number Selection	V6-T1-59
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Options	V6-T1-75
Technical Data and Specifications.	V6-T1-76
Wiring Diagrams	V6-T1-80
Dimensions.	V6-T1-81
Type S811, Soft Starters with DIM.	V6-T1-84

The product is designed to work with three-phase motors in a delta (three-lead) configuration. The S801 works with all motors from fractional horsepower up to motors requiring 1000A of steady-state current. The built-in overload (in ranges from 11–1000A) and run bypass contactor make installation and setup quick and easy. The overload also offers some advanced protective functions to give additional motor protection.

With the pump control option, it is the No. 1 soft starter available for pumping applications. This unique soft stopping control provides a smooth transition for stopping a motor and eliminates the “water-hammer” effect that can damage pipes, valves and pumps.

Operation

Overload Functionality

Overtemperature

Protects the device from overheating. Starter will shut down at 100°C.

Stall

Selectable protective feature, unit trips to protect system in event motor can not get to rated speed in the defined ramp period.

Jam

Selectable protective feature, unit trips to prevent damage to motor during normal run.

Phase Loss

Selectable protective feature, trips under voltage loss condition to any phase.

Phase Reversal

Selectable protective feature, trips when phase rotation is something other than A-B-C.

Kick Start

Selectable feature that provides a current "kick" of up to 550% of full load current for 0 to 2.0 seconds. This provides the additional torque required at startup to break free a motor.

Ramp Start

Provides a constant increase in torque to the motor.

Current Limit Start

Limits the maximum current available to the motor during the startup phase.

Soft Stop

Allows for a controlled stopping of a frictional load.

Shorted SCR Detection

Monitors for shorted SCR in the power polls.

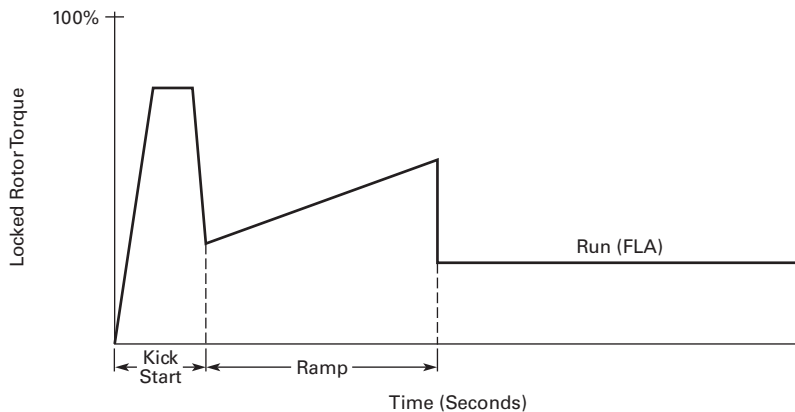
Starting Characteristics

Kick Start

Provides an initial boost of current to the motor to help break free the rotor and start spinning the motor.

- 0–85% of locked rotor torque
- 0–2.0 seconds duration

Starting Characteristics—Kick Start

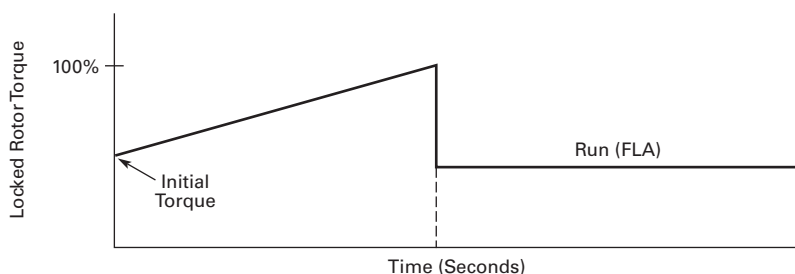


Ramp Start

The most commonly used form of soft start. This allows you to set the initial torque value (of the ramp) and then raises it to full voltage conditions.

- Adjustable initial torque = 0–85% of locked rotor torque
- Adjustable ramp time = 0.5–180 seconds (can be extended with factory modification)

Starting Characteristics—Ramp Start



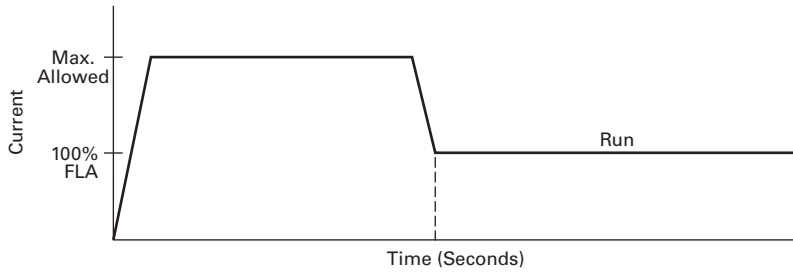
1

Current Limit

This mode of soft starting is used when it becomes necessary to limit the maximum starting current due to long start times or to protect the motor.

- Maximum current of 0–85% locked rotor current
- Adjustable ramp time = 0.5–180 seconds and can be extended to 360 seconds as a factory installed option

Starting Characteristics—Current Limit

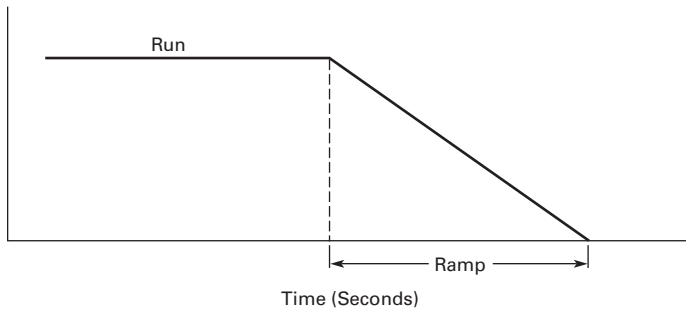


Soft Stop

Used when an extended coast-to-rest period is desired. Often used with high friction loads where a sudden stop may cause system or product damage.

- Stop time = 0–60 seconds

Starting Characteristics—Soft Stop



Features

- Built-in overload protection
- Built-in run bypass contactor
- Adjustable ramp times
- Adjustable torque control
- Adjustable kick start control
- Programmable overload settings, 31–100% (3.2:1) of rated current for the unit
- Physically fits in place of most NEMA and IEC starters
- Easy to use control interface module
- Soft stop control
- Multiple trip class settings (5, 10, 20 and 30)
- Six SCR control
- Optional pump control
- Optional extended ramp time
- Optional CIM door mount kit for safety
- Optional IP20 protection
- Optional Inside-the-delta mode

Benefits

- Reduced wear on belts, gears, chains, clutches, shafts and bearings
- Allows for controlling the inrush current to the motor
- Reduced inrush current leads to more stable power grid and can lower peak demand charges
- Elimination of water-hammer in pumping applications
- Less shock to product on conveyor lines and material handling gear
- 24 Vdc control enhances personnel and equipment safety

Standards and Certifications

- IEC 947 compliant
- EN 60947-4-2
- CSA certification
- cULus listed (File No. E202571)
- CE marked



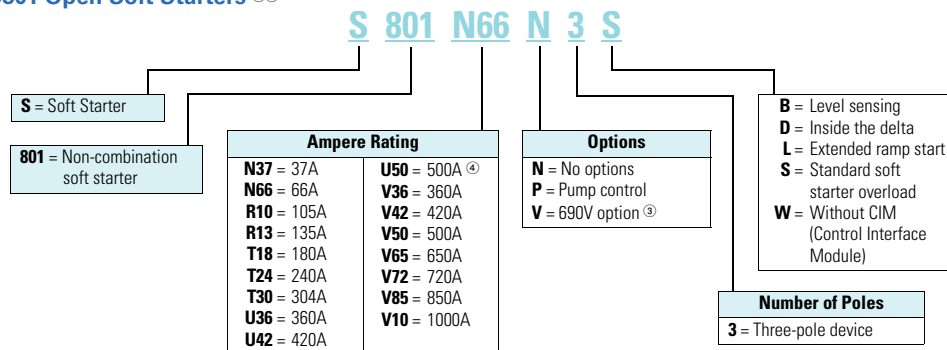
User Manuals

A comprehensive user manual is available and can be downloaded free of charge from www.eaton.com by performing a document search for MN03902008E.

The Inside-the-Delta User Manual can be found by searching for Pub. No. MN03902009E.

Catalog Number Selection

S801 Open Soft Starters ^{①②}



Notes

- ① T-, U- and V-Frames require lug kits found on **Page V6-T1-74**.
- ② All units require a 24 Vdc power supply found on catalog **Page V6-T1-74**, or equivalent.
- ③ 690V is available only from T18 thru V85. Not available on U-Frames.
- ④ U-Frame 500A unit does not have IEC certification.

Product Selection

Standard Duty Ratings

The table below is the base ratings for the soft starter. The tables included in this catalog are meant to be a selection table for different applications, but to match a unit to your exact application, consult with your local Eaton representative or call our Technical Resource Center.

Standard Duty Ratings

Starting Method	Ramp Current % of FLA	Ramp Time Seconds	Starts per Hour	Ambient Temperature
Soft start	300%	30 sec.	3	50°C
Full voltage	500%	10 sec.	3	50°C
Wye-delta	350%	20 sec.	3	50°C
80% RVAT	480%	20 sec.	2	50°C
65% RVAT	390%	20 sec.	3	50°C
50% RVAT	300%	20 sec.	4	50°C

Motor applications and customer needs come in many different varieties. With the standard and severe duty rating tables, we have attempted to provide

guidelines on what the soft starter is capable of. If the application falls under these categories, you can use these charts. For other applications, or when a

question arises, consult with your local Eaton representative or call our Technical Resource Center.

S801



Standard Duty—15 Second Ramp, 4 Starts per Hour, 300% Current Limit at 40°C

Max. Current	Three-Phase Motors kW Rating (50 Hz)			hp Rating (60 Hz)								Catalog Number ⁽²⁾⁽³⁾
	230V	380–400V	440V	200V		230V		460V		575–690V ⁽¹⁾		
				1.0SF	1.15SF	1.0SF	1.15SF	1.0SF	1.15SF	1.0SF	1.15SF	
Frame Size N												
37	10	18.5	18.5	10	10	10	10	25	20	30	30	S801N37N3S
66	18.5	30	37	20	15	20	20	50	40	60	50	S801N66N3S
Frame Size R												
105	30	55	59	30	25	40	30	75	60	100	75	S801R10N3S
135	40	63	80	40	30	50	40	100	75	125	100	S801R13N3S
Frame Size T												
180	51	90	110	60	50	60	60	150	125	150	150	S801T18N3S
240	75	110	147	75	60	75	75	200	150	200	200	S801T24N3S
304	90	160	185	100	75	100	100	250	200	300	250	S801T30N3S
Frame Size U												
360	110	185	220	125	100	150	125	300	250	350	300	S801U36N3S
420	129	220	257	150	125	175	150	350	300	450	350	S801U42N3S
500	150	257	300	150	150	200	150	400	350	500	450	S801U50N3S ⁽⁴⁾
Frame Size V												
360	110	185	220	125	100	150	125	300	250	350	300	S801V36N3S
420	129	220	257	150	125	175	150	350	300	450	350	S801V42N3S
500	150	257	300	150	150	200	150	400	350	500	450	S801V50N3S
650	200	355	425	250	200	250	200	500	450	600	500	S801V65N3S
720	220	400	450	—	—	300	250	600	500	700	600	S801V72N3S
850	257	475	500	—	—	350	300	700	600	900	700	S801V85N3S
1000	277	525	550	—	—	400	350	800	700	900	800	S801V10N3S ⁽⁵⁾

For **Pump Option**, replace character **8** with **"P"** and also, see **Page V6-T1-75**.

Notes

- ⁽¹⁾ 690V is available only from T18 thru V85. Not available on U-Frames.
- ⁽²⁾ For a longer ramp acceleration time of 0.5 to 360 seconds, see **Page V6-T1-75**.
- ⁽³⁾ For two-wire (level sensing) control, change the last digit from **S** to **B**.
- ⁽⁴⁾ U-Frame 500A does not have IEC certification.
- ⁽⁵⁾ For more information on optimum performance of the 1000A Frame Size V S801, see Appendix C of MN03902008E.

S801



Standard Duty—25 Second Ramp, 4 Starts per Hour, 300% Current Limit at 40°C

Max. Current	Three-Phase Motors kW Rating (50 Hz)			hp Rating (60 Hz)		230V		460V		575–690V ^①		Catalog Number ^{②③}
	230V	380–400V	440V	1.0SF	1.15SF	1.0SF	1.15SF	1.0SF	1.15SF	1.0SF	1.15SF	
Frame Size N												
34	9	15	18.5	10	7-1/2	10	10	25	20	30	25	S801N37N3S
63	15	30	33	20	15	20	20	40	40	60	50	S801N66N3S
Frame Size R												
96	25	45	55	30	25	30	30	75	60	75	75	S801R10N3S
120	33	63	63	40	30	40	40	75	75	100	100	S801R13N3S
Frame Size T												
150	45	80	90	50	40	50	50	100	100	150	125	S801T18N3S
215	63	110	132	60	60	75	60	150	150	200	150	S801T24N3S
278	80	147	160	75	75	100	75	200	200	250	250	S801T30N3S
Frame Size U												
320	90	160	185	100	75	125	100	250	200	300	250	S801U36N3S
380	110	200	220	125	100	150	125	300	250	350	300	S801U42N3S
460	140	250	280	150	125	150	150	350	300	450	400	S801U50N3S^④
Frame Size V												
320	90	160	185	100	75	125	100	250	200	300	250	S801V36N3S
380	110	200	220	125	100	150	125	300	250	350	300	S801V42N3S
460	140	250	280	150	125	150	150	350	300	450	400	S801V50N3S
610	185	315	375	250	150	200	200	500	450	600	500	S801V65N3S
680	200	375	445	—	200	250	200	600	500	700	600	S801V72N3S
810	250	450	500	—	—	300	300	700	600	900	700	S801V85N3S
890	290	510	560	—	—	400	350	700	600	900	700	S801V10N3S^⑤

For **Pump Option**, replace character **8** with “**P**” and also, see **Page V6-T1-75**.

Notes

- ① 690V is available only from T18 thru V85. Not available on U-Frames.
- ② For a longer ramp acceleration time of 0.5 to 360 seconds, see **Page V6-T1-75**.
- ③ For two-wire (level sensing) control, change the last digit from **S** to **B**.
- ④ U-Frame 500A does not have IEC certification.
- ⑤ For more information on optimum performance of the 1000A Frame Size V S801, see Appendix C of MN03902008E.

S801



Standard Duty—15 Second Ramp, 4 Starts per Hour, 300% Current Limit at 50°C

Max. Current	Three-Phase Motors kW Rating (50 Hz)			hp Rating (60 Hz)				575–690V ^①				Catalog Number ^{②③}
	230V	380–400V	440V	200V 1.0SF	1.15SF	230V 1.0SF	1.15SF	460V 1.0SF	1.15SF	1.0SF	1.15SF	
Frame Size N												
34	9	15	18.5	10	7-1/2	10	10	25	20	30	25	S801N37N3S
63	15	30	33	20	15	20	20	40	40	60	50	S801N66N3S
Frame Size R												
96	25	45	55	30	25	30	30	75	60	75	75	S801R10N3S
120	33	63	63	40	30	40	40	75	75	100	100	S801R13N3S
Frame Size T												
150	45	80	90	50	40	50	50	100	100	150	125	S801T18N3S
215	63	110	132	60	60	75	60	150	150	200	150	S801T24N3S
278	80	147	160	75	75	100	75	200	200	250	250	S801T30N3S
Frame Size U												
320	90	160	185	100	75	125	100	250	200	300	250	S801U36N3S
460	110	200	220	125	100	150	125	300	250	350	300	S801U42N3S
460	140	250	280	150	125	150	150	350	300	450	400	S801U50N3S^④
Frame Size V												
320	90	160	185	100	75	125	100	250	200	300	250	S801V36N3S
380	110	200	220	125	100	150	125	300	250	350	300	S801V42N3S
460	140	250	280	150	125	150	150	350	300	450	400	S801V50N3S
610	185	315	375	250	150	200	200	500	450	600	500	S801V65N3S
680	200	375	445	—	200	250	200	600	500	700	600	S801V72N3S
830	257	450	500	—	—	300	300	700	600	900	700	S801V85N3S
960	302	510	540	—	—	350	300	800	700	900	800	S801V10N3S^⑤

For **Pump Option**, replace character **8** with **"P"** and also, see **Page V6-T1-75**.

Notes

- ① 690V is available only from T18 thru V85. Not available on U-Frames.
- ② For a longer ramp acceleration time of 0.5 to 360 seconds, see **Page V6-T1-75**.
- ③ For two-wire (level sensing) control, change the last digit from **S** to **B**.
- ④ U-Frame 500A does not have IEC certification.
- ⑤ For more information on optimum performance of the 1000A Frame Size V S801, see Appendix C of MN03902008E.

S801



Standard Duty—50 Second Ramp, 2 Starts per Hour, 300% Current Limit at 50°C

Max. Current	Three-Phase Motors kW Rating (50 Hz)			hp Rating (60 Hz)				575–690V ^①				Catalog Number ^{②③}
	230V	380–400V	440V	200V 1.0SF	1.15SF	230V 1.0SF	1.15SF	460V 1.0SF	1.15SF	1.0SF	1.15SF	
Frame Size N												
21	5.5	10	11	5	5	5	5	15	10	15	15	S801N37N3S
42	11	18.5	22	10	10	15	10	30	25	40	30	S801N66N3S
Frame Size R												
60	15	30	33	15	15	20	15	40	40	50	50	S801R10N3S
80	22	40	45	25	20	30	25	60	50	75	60	S801R13N3S
Frame Size T												
115	33	59	63	30	30	40	30	75	75	100	100	S801T18N3S
150	45	80	90	50	40	50	50	100	100	150	125	S801T24N3S
192	55	100	110	60	50	60	60	150	125	200	150	S801T30N3S
Frame Size U												
280	80	150	160	75	75	100	75	200	200	250	250	S801U36N3S
340	110	180	200	100	100	125	100	250	200	350	300	S801U42N3S
380	110	200	220	125	100	150	125	300	250	350	300	S801U50N3S^④
Frame Size V												
280	80	150	160	75	75	100	75	200	200	250	250	S801V36N3S
340	110	180	200	100	100	125	100	250	200	350	300	S801V42N3S
380	110	200	220	125	100	150	125	300	250	350	300	S801V50N3S
420	129	220	257	150	125	150	150	350	300	450	350	S801V65N3S
480	147	257	295	150	150	200	150	400	350	500	450	S801V72N3S
590	180	315	375	200	150	200	200	500	400	600	500	S801V85N3S
650	205	370	415	250	200	250	200	500	450	600	500	S801V10N3S^⑤

For **Pump Option**, replace character **8** with **"P"** and also, see **Page V6-T1-75**.

Notes

- ① 690V is available only from T18 thru V85. Not available on U-Frames.
- ② For a longer ramp acceleration time of 0.5 to 360 seconds, see **Page V6-T1-75**.
- ③ For two-wire (level sensing) control, change the last digit from **S** to **B**.
- ④ U-Frame 500A does not have IEC certification.
- ⑤ For more information on optimum performance of the 1000A Frame Size V S801, see Appendix C of MN03902008E.

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S801



Standard Duty—15 Second Ramp, 4 Starts per Hour, 450% Current Limit at 40°C

Max. Current	Three-Phase Motors kW Rating (50 Hz)			hp Rating (60 Hz)				575–690V ^①				Catalog Number ^{②③}
	230V	380–400V	440V	200V 1.0SF	1.15SF	230V 1.0SF	1.15SF	460V 1.0SF	1.15SF	1.0SF	1.15SF	
Frame Size N												
29	7.5	12.5	15	7-1/2	7-1/2	10	7-1/2	20	15	25	20	S801N37N3S
49	12.5	22	25	15	10	15	15	30	30	40	40	S801N66N3S
Frame Size R												
73	18.5	37	40	20	20	25	20	50	40	60	60	S801R10N3S
94	25	45	55	30	25	30	30	60	60	75	75	S801R13N3S
Frame Size T												
155	45	80	90	50	40	60	50	100	100	150	125	S801T18N3S
219	63	110	132	60	60	75	60	150	150	200	150	S801T24N3S
280	80	150	160	75	75	100	75	200	200	250	250	S801T30N3S
Frame Size U												
345	100	185	200	100	100	125	100	250	200	350	300	S801U36N3S
405	110	200	250	125	100	150	125	300	250	400	350	S801U42N3S^④
Frame Size V												
345	100	185	200	100	100	125	100	250	200	350	300	S801V36N3S
405	110	200	250	125	100	150	125	300	250	400	350	S801V42N3S
465	140	250	280	150	125	150	150	350	300	450	400	S801V50N3S
530	160	280	335	150	150	200	150	450	350	500	450	S801V65N3S
590	180	315	375	200	150	—	200	500	400	600	500	S801V72N3S
651	200	355	425	—	—	—	—	600	450	700	600	S801V85N3S
754	220	400	465	—	—	—	—	600	500	800	700	S801V10N3S^⑤

For Pump Option, replace character 8 with "P" and also, see Page V6-T1-75.

Notes

- ① 690V is available only from T18 thru V85. Not available on U-Frames.
- ② For a longer ramp acceleration time of 0.5 to 360 seconds, see Page V6-T1-75.
- ③ For two-wire (level sensing) control, change the last digit from S to B.
- ④ U-Frame 500A does not have IEC certification.
- ⑤ For more information on optimum performance of the 1000A Frame Size V S801, see Appendix C of MN03902008E.

S801



Standard Duty—30 Second Ramp, 4 Starts per Hour, 450% Current Limit at 40°C

Max. Current	Three-Phase Motors kW Rating (50 Hz)			hp Rating (60 Hz)				575–690V ^①				Catalog Number ^{②③}
	230V	380–400V	440V	200V 1.0SF	1.15SF	230V 1.0SF	1.15SF	460V 1.0SF	1.15SF	1.0SF	1.15SF	
Frame Size N												
21	5.5	10	12.5	5	5	5	5	15	10	15	15	S801N37N3S
40	11	18.5	22	10	10	10	10	30	25	30	30	S801N66N3S
Frame Size R												
55	15	25	30	15	15	20	15	40	30	50	40	S801R10N3S
75	22	37	45	20	20	25	20	50	50	60	60	S801R13N3S
Frame Size T												
151	45	80	90	50	40	50	50	100	100	150	125	S801T18N3S
215	63	110	132	60	60	75	60	150	150	200	150	S801T24N3S
264	80	140	160	75	75	100	75	200	150	250	200	S801T30N3S
Frame Size U												
300	90	160	185	100	75	100	100	200	200	300	250	S801U36N3S
340	100	180	200	100	100	125	100	250	200	350	300	S801U42N3S^④
380	110	200	220	125	100	150	125	300	250	350	300	S801U50N3S
Frame Size V												
300	90	160	185	100	75	100	100	200	200	300	250	S801V36N3S
340	100	180	200	100	100	125	100	250	200	350	300	S801V42N3S
380	110	200	220	125	100	150	125	300	250	350	300	S801V50N3S
420	129	220	257	150	125	150	150	350	300	450	350	S801V65N3S
460	140	250	280	150	125	150	150	350	300	450	400	S801V72N3S
500	150	257	300	150	150	200	150	400	350	500	450	S801V85N3S
560	160	277	325	200	150	250	200	500	400	600	500	S801V10N3S^⑤

For **Pump Option**, replace character **8** with **"P"** and also, see **Page V6-T1-75**.

Notes

- ① 690V is available only from T18 thru V85. Not available on U-Frames.
- ② For a longer ramp acceleration time of 0.5 to 360 seconds, see **Page V6-T1-75**.
- ③ For two-wire (level sensing) control, change the last digit from **S** to **B**.
- ④ U-Frame 500A does not have IEC certification.
- ⑤ For more information on optimum performance of the 1000A Frame Size V S801, see Appendix C of MN03902008E.

Severe Duty Ratings

The table below is the base ratings for the soft starter. The tables included in this catalog are meant to be a selection table for different applications, but to match a unit to your exact application, consult with your local Eaton representative or call our Technical Resource Center.

Severe Duty Ratings

Starting Method	Ramp Current % of FLA	Ramp Time Seconds	Starts per Hour	Ambient Temperature
Soft start	450%	30 sec.	4	50°C
Full voltage	500%	10 sec.	10	50°C
Wye-delta	350%	65 sec.	3	50°C
80% RVAT	480%	25 sec.	4	50°C
65% RVAT	390%	40 sec.	4	50°C
50% RVAT	300%	60 sec.	4	50°C

Severe duty ratings are defined as any combination of parameters that exceed the standard duty ratings where

the ramp time is over 30 seconds, the number of starts per hour exceeds 4, or the current limit set is over

300%. *Example:* 35-second ramp, 5 starts per hour, 350% current limit at 40°C ambient.

S801



Severe Duty —>30 Second Ramp, >4 Starts per Hour or >300% Current Limit

Max. Current	Three-Phase Motor kW Rating (50 Hz)			hp Rating (60 Hz)								Catalog Number ^{①②}
	230V	380–400V	440V	200V 1.0SF	1.15SF	230V 1.0SF	1.15SF	460V 1.0SF	1.15SF	575V 1.0SF	1.15SF	
Frame Size N												
22	5.5	10	11	5	5	7-1/2	5	15	10	20	15	S801N37N3S
42	11	18.5	22	10	10	15	10	30	25	40	30	S801N66N3S
Frame Size R												
65	15	30	33	15	15	20	15	50	40	50	50	S801R10N3S
80	22	40	45	25	20	30	25	60	50	75	60	S801R13N3S
Frame Size T												
115	33	59	63	30	30	40	30	75	75	100	100	S801T18N3S
150	45	80	90	50	40	50	50	100	100	150	125	S801T24N3S
192	55	100	110	60	50	75	60	150	125	200	150	S801T30N3S
Frame Size U												
240	75	110	147	75	60	75	75	200	150	200	200	S801U36N3S
305	90	160	185	100	75	100	100	250	200	300	250	S801U42N3S
365	110	185	220	125	100	150	125	300	250	350	300	S801U50N3S ^③
Frame Size V												
240	75	110	147	75	60	75	75	200	150	200	200	S801V36N3S
305	90	160	185	100	75	100	100	250	200	300	250	S801V42N3S
365	110	185	220	125	100	150	125	300	250	350	300	S801V50N3S
420	129	220	257	150	125	150	150	350	300	450	350	S801V65N3S
480	147	257	295	150	150	200	150	400	350	500	450	S801V72N3S
525	160	280	335	150	150	200	150	450	350	500	450	S801V85N3S
600	185	315	375	200	150	250	200	500	450	600	500	S801V10N3S ^④

Notes

- ① For a longer ramp acceleration time of 0.5 to 360 seconds, see **Page V6-T1-75**.
- ② For two-wire (level sensing) control, change the last digit from **S** to **B**.
- ③ U-Frame 500A unit does not have IEC certification.
- ④ For more information on optimum performance of the 1000A Frame Size V S801, see Appendix C of MN03902008E.

Inside-the-Delta Standard Duty Ratings

S801



Inside-the-Delta Standard Duty—15 Second Ramp, 4 Starts per Hour, 300% Current Limit at 40°C Ambient

Max. Continuous Motor Line Current	Three-Phase Motor kW Rating (50 Hz)			hp Rating (60 Hz)								Catalog Number
	230V	380–400V	440V	200V		230V		460V		575V		
				1.0SF	1.15SF	1.0SF	1.15SF	1.0SF	1.15SF	1.0SF	1.15SF	
Frame Size N												
65	10	18.5	18.5	15	15	15	15	40	30	50	50	S801N37N3D
114	18.5	30	37	30	25	30	30	75	60	100	75	S801N66N3D
Frame Size R												
182	30	55	59	50	40	60	50	125	100	150	125	S801R10N3D
234	40	63	80	60	50	75	60	150	125	200	150	S801R13N3D
Frame Size T												
311	51	90	110	100	75	100	100	250	200	250	250	S801T18N3D
415	75	110	147	125	100	125	125	300	250	300	300	S801T24N3D
526	90	160	185	150	125	150	150	400	300	400	400	S801T30N3D
Frame Size U												
623	110	185	220	200	150	250	200	450	400	550	450	S801U36N3D
727	129	220	257	250	200	300	250	550	450	700	550	S801U42N3D
865	150	257	300	250	250	300	250	600	550	750	700	S801U50N3D ^{①②}
Frame Size V												
623	110	185	220	200	150	250	200	450	400	550	450	S801V36N3D
727	129	220	257	250	200	300	250	550	450	700	550	S801V42N3D
865	150	257	300	250	250	300	250	600	550	750	700	S801V50N3D
1125	200	355	425	400	300	400	300	750	700	900	750	S801V65N3D
1246	—	—	—	—	—	—	—	—	—	—	—	S801V72N3D
1471	—	—	—	—	—	—	—	—	—	—	—	S801V85N3D
—	—	—	—	—	—	—	—	—	—	—	—	S801V10N3D ^③

Notes

- ① 15 sec. start, 300% inrush, 40°C, 1 start every 15 minutes. If these start parameters are exceeded, please refer to 290 mm V-Frame, 865A Inside-the-Delta Starter.
- ② U-Frame 500A unit does not have IEC certification.
- ③ For more information on optimum performance of the 1000A Frame Size V Inside-the-Delta S801, see Appendix C of MN03902009E.

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S801



Inside-the-Delta Standard Duty—25 Second Ramp, 4 Starts per Hour, 300% Current Limit at 40°C Ambient

Max. Continuous Motor Line Current	Three-Phase Motor kW Rating (50 Hz)			hp Rating (60 Hz)								Catalog Number
	230V	380–400V	440V	200V		230V		460V		575V		
				1.0SF	1.15SF	1.0SF	1.15SF	1.0SF	1.15SF	1.0SF	1.15SF	
Frame Size N												
58	9	15	18.5	15	10	15	15	40	30	50	40	S801N37N3D
108	15	30	33	30	25	30	30	60	60	100	75	S801N66N3D
Frame Size R												
164	25	45	55	50	40	50	50	125	100	125	125	S801R10N3D
206	33	63	63	60	50	60	50	125	125	150	150	S801R13N3D
Frame Size T												
257	45	80	90	75	60	75	60	150	150	250	200	S801T18N3D
365	63	110	132	100	100	125	100	250	250	300	250	S801T24N3D
477	80	147	160	125	125	150	125	300	300	400	400	S801T30N3D
Frame Size U												
554	90	160	185	150	125	200	150	400	300	450	400	S801U36N3D
646	110	200	220	200	150	250	200	500	400	550	450	S801U42N3D
796	140	250	280	250	200	250	250	550	500	700	600	S801U50N3D ^{①②}
Frame Size V												
554	90	160	185	150	125	200	150	400	300	450	400	S801V36N3D
646	110	200	220	200	150	250	200	500	400	550	450	S801V42N3D
796	140	250	280	250	200	250	250	550	500	700	600	S801V50N3D
1055	185	315	375	400	250	300	300	800	700	900	750	S801V65N3D
1176	200	375	445	—	300	400	300	900	800	900	900	S801V72N3D
1358	—	—	—	—	—	—	—	—	—	—	—	S801V85N3D
—	—	—	—	—	—	—	—	—	—	—	—	S801V10N3D ^③

Notes

- ① 15 sec. start, 300% inrush, 40°C, 1 start every 15 minutes. If these start parameters are exceeded, please refer to 290 mm V-Frame, 796A Inside-the-Delta Starter.
- ② U-Frame 500A unit does not have IEC certification.
- ③ For more information on optimum performance of the 1000A Frame Size V Inside-the-Delta S801, see Appendix C of MN03902009E.

S801



Inside-the-Delta Standard Duty— 15 Second Ramp, 4 Starts per Hour, 300% Current Limit at 50°C Ambient

Max. Continuous Motor Line Current	Three-Phase Motor kW Rating (50 Hz)			hp Rating (60 Hz)								Catalog Number
	230V	380–400V	440V	200V 1.0SF	1.15SF	230V 1.0SF	1.15SF	460V 1.0SF	1.15SF	575V 1.0SF	1.15SF	
Frame Size N												
58	9	15	18.5	15	10	15	15	40	30	50	40	S801N37N3D
108	15	30	33	30	25	30	30	60	60	100	75	S801N66N3D
Frame Size R												
164	25	45	55	50	40	50	50	125	100	125	125	S801R10N3D
206	33	63	63	60	50	60	60	125	125	150	150	S801R13N3D
Frame Size T												
257	45	80	90	75	60	75	75	150	150	250	200	S801T18N3D
365	63	110	132	100	100	125	100	250	250	300	250	S801T24N3D
477	80	147	160	125	125	150	125	300	300	400	400	S801T30N3D
Frame Size U												
554	90	160	185	150	125	200	150	400	300	450	400	S801U36N3D
646	110	200	220	200	150	250	200	450	400	550	450	S801U42N3D
796	140	250	280	250	200	250	250	550	450	700	600	S801U50N3D ^①
Frame Size V												
554	90	160	185	150	125	200	150	400	300	450	400	S801V36N3D
646	110	200	220	200	150	250	200	450	400	550	450	S801V42N3D
796	140	250	280	250	200	250	250	550	450	700	600	S801V50N3D
1055	185	315	375	400	250	300	300	750	700	900	750	S801V65N3D
1176	200	375	445	—	—	—	—	—	—	—	—	S801V72N3D
1358	257	450	500	—	—	—	—	—	—	—	—	S801V85N3D
—	—	—	—	—	—	—	—	—	—	—	—	S801V10N3D ^②

Notes

- ① U-Frame 500A unit does not have IEC certification.
- ② For more information on optimum performance of the 1000A Frame Size V Inside-the-Delta S801, see Appendix C of MN03902009E.

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S801



Inside-the-Delta Standard Duty—50 Second Ramp, 2 Starts per Hour, 300% Current Limit at 50°C Ambient

Max. Continuous Motor Line Current	Three-Phase Motor kW Rating (50 Hz)			hp Rating (60 Hz)				460V		575V		Catalog Number
	230V	380–400V	440V	200V 1.0SF	1.15SF	230V 1.0SF	1.15SF	1.0SF	1.15SF	1.0SF	1.15SF	
Frame Size N												
36	5.5	10	11	7-1/2	7-1/2	7-1/2	7-1/2	25	15	25	25	S801N37N3D
73	11	18.5	22	15	15	25	15	50	40	60	50	S801N66N3D
Frame Size R												
103	15	30	33	25	25	30	25	60	60	75	75	S801R10N3D
138	22	40	45	40	30	50	40	100	75	125	100	S801R13N3D
Frame Size T												
199	33	59	63	50	50	60	50	125	125	150	150	S801T18N3D
257	45	80	90	75	60	75	75	150	150	250	200	S801T24N3D
324	55	100	110	100	75	100	100	250	200	300	250	S801T30N3D
Frame Size U												
485	80	150	160	125	125	150	125	300	300	400	400	S801U36N3D
580	100	180	200	150	150	200	150	400	300	550	450	S801U42N3D
646	110	200	220	200	150	250	200	450	400	550	450	S801U50N3D ^①
Frame Size V												
485	80	150	160	125	125	150	125	300	300	400	400	S801V36N3D
580	100	180	200	150	150	200	150	400	300	550	450	S801V42N3D
646	110	200	220	200	150	250	200	450	400	550	450	S801V50N3D
727	129	220	257	250	200	250	250	550	500	700	550	S801V65N3D
816	147	257	295	250	250	300	250	600	550	750	700	S801V72N3D
1021	180	315	375	300	250	300	300	750	600	900	750	S801V85N3D
—	—	—	—	—	—	—	—	—	—	—	—	S801V10N3D ^②

Notes

① U-Frame 500A unit does not have IEC certification.

② For more information on optimum performance of the 1000A Frame Size V Inside-the-Delta S801, see Appendix C of MN03902009E.

S801



Inside-the-Delta Standard Duty— 15 Second Ramp, 4 Starts per Hour, 450% Current Limit at 40°C Ambient

Max. Continuous Motor Line Current	Three-Phase Motor kW Rating (50 Hz)			hp Rating (60 Hz)								Catalog Number
	230V	380–400V	440V	200V 1.0SF	230V 1.15SF	460V 1.0SF	460V 1.15SF	575V 1.0SF	575V 1.15SF			
Frame Size N												
47	7.5	12.5	15	10	10	15	10	30	25	40	30	S801N37N3D
83	12.5	22	25	25	15	25	25	50	50	60	60	S801N66N3D
Frame Size R												
126	18.5	37	40	30	30	40	30	75	60	100	100	S801R10N3D
162	25	45	55	50	40	50	50	100	100	125	125	S801R13N3D
Frame Size T												
266	45	80	90	75	60	100	75	150	150	250	200	S801T18N3D
379	63	110	132	100	100	125	100	250	250	300	250	S801T24N3D
485	80	150	160	125	125	150	125	300	300	400	400	S801T30N3D
Frame Size U												
580	100	185	200	150	150	200	150	400	300	550	450	S801U36N3D
695	110	200	250	200	150	250	200	450	400	600	550	S801U42N3D
798	140	250	280	250	200	250	250	550	450	700	600	S801U50N3D ^①
Frame Size V												
580	100	185	200	150	150	200	150	400	300	550	450	S801V36N3D
695	110	200	250	200	150	250	200	450	400	600	550	S801V42N3D
798	140	250	280	250	200	250	250	550	450	700	600	S801V50N3D
908	160	280	335	250	250	300	250	700	550	750	700	S801V65N3D
1021	—	—	—	—	—	—	—	—	—	—	—	S801V72N3D
1125	—	—	—	—	—	—	—	—	—	—	—	S801V85N3D

Note

① U-Frame 500A unit does not have IEC certification.

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S801



Inside-the-Delta Standard Duty—30 Second Ramp, 4 Starts per Hour, 450% Current Limit at 40°C Ambient

Max. Continuous Motor Line Current	Three-Phase Motor kW Rating (50 Hz)			hp Rating (60 Hz)								Catalog Number
	230V	380–400V	440V	200V		230V		460V		575V		
				1.0SF	1.15SF	1.0SF	1.15SF	1.0SF	1.15SF	1.0SF	1.15SF	
Frame Size N												
36	5.5	10	12.5	7-1/2	7-1/2	7-1/2	7-1/2	25	15	25	25	S801N37N3D
69	11	18.5	22	15	15	15	15	50	40	50	50	S801N66N3D
Frame Size R												
96	15	25	30	25	25	30	25	60	50	75	60	S801R10N3D
130	22	37	45	30	30	40	30	75	75	100	100	S801R13N3D
Frame Size T												
257	45	80	90	75	60	75	75	150	150	250	200	S801T18N3D
365	63	110	132	100	100	125	100	250	250	300	250	S801T24N3D
448	80	140	160	125	125	150	125	300	250	400	300	S801T30N3D
Frame Size U												
503	90	160	185	150	125	150	150	300	300	450	400	S801U36N3D
580	100	180	200	150	150	200	150	400	300	550	450	S801U42N3D
646	110	200	220	200	150	250	200	450	400	550	450	S801U50N3D ^①
Frame Size V												
503	90	160	185	150	125	150	150	300	300	450	400	S801V36N3D
580	100	180	200	150	150	200	150	400	300	550	450	S801V42N3D
646	110	200	220	200	150	250	200	450	400	550	450	S801V50N3D
727	129	220	257	250	200	250	250	550	450	700	550	S801V65N3D
796	—	—	—	—	—	—	—	—	—	—	—	S801V72N3D
865	—	—	—	—	—	—	—	—	—	—	—	S801V85N3D

Note

^① U-Frame 500A unit does not have IEC certification.

Inside-the-Delta Severe Duty Ratings

Severe duty ratings are defined as any combination of parameters that exceed the standard duty ratings where the ramp time is over 30 seconds, the number of starts per hour exceeds 4, or the current limit set is over 300%.

Example: 35-second ramp, 5 starts per hour 350% current limit at 40°C ambient.

S801



Inside-the-Delta Severe Duty

Max. Continuous Motor Line Current	Three-Phase Motor kW Rating (50 Hz)			hp Rating (60 Hz)								Catalog Number
	230V	380–400V	440V	200V		230V		460V		575V		
				1.0SF	1.15SF	1.0SF	1.15SF	1.0SF	1.15SF	1.0SF	1.15SF	
Frame Size N												
39	5.5	10	11	7-1/2	7-1/2	10	7-1/2	25	15	30	25	S801N37N3D
73	11	18.5	22	15	15	25	15	50	40	60	50	S801N66N3D
Frame Size R												
111	15	30	33	25	25	30	25	75	60	75	75	S801R10N3D
138	22	40	45	40	30	50	40	100	75	120	100	S801R13N3D
Frame Size T												
199	33	59	63	50	50	60	50	125	125	150	150	S801T18N3D
257	45	80	90	75	60	75	75	150	150	250	200	S801T24N3D
324	55	100	110	100	75	100	100	250	200	300	250	S801T30N3D
Frame Size U												
415	75	110	147	125	100	125	125	300	250	300	300	S801U36N3D
526	90	160	185	150	120	150	150	400	300	450	400	S801U42N3D
623	110	185	220	200	150	250	200	450	400	550	450	S801U50N3D ①
Frame Size V												
415	75	110	147	125	100	125	125	300	250	300	300	S801V36N3D
526	90	160	185	150	120	150	150	400	300	450	400	S801V42N3D
623	110	185	220	200	150	250	200	450	400	550	450	S801V50N3D
727	129	220	257	250	200	250	250	550	450	700	550	S801V65N3D
816	147	257	295	250	250	300	250	600	550	750	700	S801V72N3D
908	160	280	335	250	250	300	250	700	550	750	700	S801V85N3D
—	—	—	—	—	—	—	—	—	—	—	—	S801V10N3D ②

Notes

- ① U-Frame 500A unit does not have IEC certification.
- ② For more information on optimum performance of the 1000A Frame Size V Inside-the-Delta S801, see Appendix C of MN03902009E.

Accessories

Lug Kits

The T and U frame (200 mm) and V frame (290 mm) each have different lug options based on your wiring needs.

Each lug kit contains three lugs that can be mounted on either the load or line side.

Lug Kit



Lug Kits

Frame Size	Frame Designation	Description	Catalog Number
200 mm SSRV	T, U	2 cable connections, 4 AWG to 1/0 cable	EML22
		1 cable connection, 4/0 to 500 kcmil cable	EML23
		2 cable connections, 4/0 to 500 kcmil cable	EML24
		1 cable connection, 2/0 to 300 kcmil cable	EML25
		2 cable connections, 2/0 to 300 kcmil cable	EML26
		290 mm SSRV	V
4 cable connections, 4/0 to 500 kcmil cable	EML30		
6 cable connections, 4/0 to 500 kcmil cable	EML32		
4 cable connections, 2/0 to 300 kcmil cable	EML33 ^①		

Power Supplies

24 Vdc power supply that can be used with the S801 SSRV or as a stand-alone device.

Power Supplies

Description	Catalog Number
85–264 Vac input 24 Vdc output	PSG240E
360–575 Vac input 24 Vdc output	PSG240F

Lug Cover Kits

Replacement covers for the T- and V-Frame are available in case of damage to the existing covers.

Lug Cover Kits

Description	Catalog Number
Lug cover T-, U-Frame	EML27
Lug cover V-Frame	EML34

IP20 Kits

IP20 Kits

Description	Catalog Number
N-Frame kit	SS-IP20-N
R-Frame kit	SS-IP20-R
T- and U-Frame kit	SS-IP20-TU
V-Frame kit	SS-IP20-V

Surge Suppressors

The surge suppressor can mount on either the line or load side of the soft starter. It is designed to clip the line voltage (or load side induced voltage).

Surge Suppressor



Surge Suppressors

Description	Catalog Number
600V MOV for 200 mm and 290 mm units	EMS39
690V MOV for 200 mm and 290 mm units ^②	EMS41

Notes

- ① The EML33 does not have a CSA listing.
- ② T-Frame only.

Mounting Plates

The mounting plates are designed to help make it easy to install or retrofit the soft starter into enclosures and MCCs. The soft starter can be mounted onto the plate prior to installation. The mounting plate is designed with tear drop mounting holes for easier installation.

Mounting Plates

Description	Catalog Number
Mounting plate N-Frame	EMM13N
Mounting plate R-Frame	EMM13R
Mounting plate T-, U-Frame	EMM13T
Mounting plate V-Frame	EMM13V

Vibration Plates

The vibration plates allow the soft starter to be applied in high shock and vibration applications. The vibration plate allows vibration up to 5g and shock in up to 40g. The soft starter is mounted onto the vibration plate prior to installation in the panel.

Vibration Plates

Description	Catalog Number
Vibration plate N-Frame	EMM14N
Vibration plate R-Frame	EMM14R
Vibration plate T-, U-Frame	EMM14T
Vibration plate V-Frame	EMM14V

Adapter Plates

The adapter plate allows customers to retrofit a V-Frame 290 mm soft starter with the U-Frame 200 mm soft starter.

Adapter Plates

Description	Catalog Number
Adapter plates ^②	EMM13U

Control Wire Connector

Control Wire Connector

Description	Catalog Number
12-pin, 5 mm pitch connector for control wiring	EMA75

Control Interface Module

The Control Interface Module (CIM) is available as a replacement part in two versions.

CIM

Description	Catalog Number
Blank cover (filler)	EMA68
CIM for standard unit	EMA71
CIM for pump control option	EMA72
Panel mounting kit	
3 ft cable	EMA69A
5 ft cable	EMA69B
8 ft cable	EMA69C
10 ft cable	EMA69D

Options

Pump Control

For pump control option, use the following table to select the product you are looking for. For sizing information, use the tables on **Pages V6-T1-60 to V6-T1-73**.

Pump Control Option

Frame Size	Max. Current	Catalog Number
N	37	S801N37P3S
	66	S801N66P3S
R	105	S801R10P3S
	135	S801R13P3S
T	180	S801T18P3S
	240	S801T24P3S
	304	S801T30P3S
U	360	S801U36P3S
	420	S801U42P3S
	500	S801U50P3S ^①
V	360	S801V36P3S
	420	S801V42P3S
	500	S801V50P3S
	650	S801V65P3S
	720	S801V72P3S
	850	S801V85P3S
	1000	S801V10P3S

Extended Ramp

For a longer ramp acceleration time of 0.5–360 seconds, change the last digit in the catalog number from **Page V6-T1-60** to **L**.

Extended Ramp Option

Frame Size	Max. Current	Catalog Number
N	37	S801N37N3L
	66	S801N66N3L
R	105	S801R10N3L
	135	S801R13N3L
T	180	S801T18N3L
	240	S801T24N3L
	304	S801T30N3L
U	360	S801U36N3L
	420	S801U42N3L
	500	S801U50N3L ^①
V	360	S801V36N3L
	420	S801V42N3L
	500	S801V50N3L
	650	S801V65N3L
	720	S801V72N3L
	850	S801V85N3L
	1000	S801V10N3L

Extended Ramp and 690V Option

For voltage ratings of 690V, use the table below.

690V Option

Frame Size	Max. Current	Catalog Number
T	180	S801T18V3L
	240	S801T24V3L
	304	S801T30V3L
V	360	S801V36V3L
	420	S801V42V3L
	500	S801V50V3L
	650	S801V65V3L
	720	S801V72V3L
	850	S801V85V3L

Cooling Fan Kit

The EMM18 cooling fan kit mounts on either side of any frame size S801 Soft Starter to provide additional printed circuit board cooling in high ambient operating temperatures.

Cooling Fan Kit

Description	Catalog Number
Fan Kit	EMM18

Notes

- ^① U-Frame 500A unit does not have IEC certification.
- ^② For more information, see Pub 51719.

Technical Data and Specifications

Soft Starters—S801

Description	S801 Soft Starter (Partial Catalog Number)			
	S801N37	S801N66	S801R10	S801R13
Max. current capacity	37	66	105	135
General Information				
Bypass mechanical lifespan	10M	10M	10M	10M
Insulating voltage U_i	660V	660V	660V	660V
Ramp time range	0.5–180 seconds (0.5–360 seconds extended ramp)	0.5–180 seconds (0.5–360 seconds extended ramp)	0.5–180 seconds (0.5–360 seconds extended ramp)	0.5–180 seconds (0.5–360 seconds extended ramp)
Resistance to vibration	3g	3g	3g	3g
Resistance to shock	15g	15g	15g	15g
Electrical Information				
Operating voltage	200–600V	200–600V	200–600V	200–600V
Operating frequency	47–63 Hz	47–63 Hz	47–63 Hz	47–63 Hz
Overload setting	30–100%	30–100%	30–100%	30–100%
Trip class	5, 10, 20 and 30	5, 10, 20 and 30	5, 10, 20 and 30	5, 10, 20 and 30
Cabling Capacity (IEC 947)				
Number of conductors	1	1	1	1
Wire sizes	14–2	14–2	14–4/0	14–4/0
Type of connectors	Box lug	Box lug	Box lug	Box lug
Control Wiring (12-Pin)				
Wire sizes in AWG	22–14	22–14	22–14	22–14
Number of conductors (stranded)	2 (or one AWG 12)	2 (or one AWG 12)	2 (or one AWG 12)	2 (or one AWG 12)
Torque requirements in lb-in	3.5	3.5	3.5	3.5
Solid, stranded or flexible max. size in mm ²	3.31	3.31	3.31	3.31
Control Power Requirements				
Voltage range (24V ±10%)	21.6–26.4	21.6–26.4	21.6–26.4	21.6–26.4
Steady-state current amps	1.0	1.0	1.0	1.0
Inrush current amps	10	10	10	10
Ripple	1%	1%	1%	1%
Relays (1) Class A and C				
Voltage AC—maximum	240	240	240	240
Voltage DC—maximum	120	120	120	120
Amps—maximum	3	3	3	3
Environment				
Temperature—operating	–30 to 50°C (no derating) consult factory for operation >50°C	–30 to 50°C (no derating) consult factory for operation >50°C	–30 to 50°C (no derating) consult factory for operation >50°C	–30 to 50°C (no derating) consult factory for operation >50°C
Temperature—storage	–50 to 70°C	–50 to 70°C	–50 to 70°C	–50 to 70°C
Altitude	<2000m—consult factory for operation >2000m	<2000m—consult factory for operation >2000m	<2000m—consult factory for operation >2000m	<2000m—consult factory for operation >2000m
Humidity	<95% noncondensing	<95% noncondensing	<95% noncondensing	<95% noncondensing
Operating position	Any	Any	Any	Any
Pollution degree IEC947-1	3	3	3	3
Impulse withstand voltage IEC947-4-1	6000V	6000V	6000V	6000V

Soft Starters—S801, continued

Description	S801 Soft Starter (Partial Catalog Number)			
	S801T18	S801T24	S801T30	S801U36
Max. current capacity	180	240	304	360
General Information				
Bypass mechanical lifespan	10M	10M	10M	10M
Insulating voltage U_i	660V	660V	660V	660V
Ramp time range	0.5–180 seconds (0.5–360 seconds extended ramp)	0.5–180 seconds (0.5–360 seconds extended ramp)	0.5–180 seconds (0.5–360 seconds extended ramp)	0.5–180 seconds (0.5–360 seconds extended ramp)
Resistance to vibration	3g	3g	3g	3g
Resistance to shock	15g	15g	15g	15g
Electrical Information				
Operating voltage	200–600V	200–600V	200–600V	200–600V
Operating frequency	47–63 Hz	47–63 Hz	47–63 Hz	47–63 Hz
Overload setting	30–100%	30–100%	30–100%	30–100%
Trip class	5, 10, 20 and 30	5, 10, 20 and 30	5, 10, 20 and 30	5, 10, 20 and 30
Cabling Capacity (IEC 947)				
Number of conductors	1 or 2	1 or 2	1 or 2	1 or 2
Wire sizes	4 AWG to 500 kcmil	4 AWG to 500 kcmil	4 AWG to 500 kcmil	4 AWG to 500 kcmil
Type of connectors	Add-on lug kit	Add-on lug kit	Add-on lug kit	Add-on lug kit
Control Wiring (12-Pin)				
Wire sizes in AWG	22–14	22–14	22–14	22–14
Number of conductors (stranded)	2 (or one AWG 12)	2 (or one AWG 12)	2 (or one AWG 12)	2 (or one AWG 12)
Torque requirements in lb-in	3.5	3.5	3.5	3.5
Solid, stranded or flexible max. size in mm ²	3.31	3.31	3.31	3.31
Control Power Requirements				
Voltage range (24V ±10%)	21.6–26.4	21.6–26.4	21.6–26.4	21.6–26.4
Steady-state current amps	1.0	1.0	1.0	1.0
Inrush current amps	10	10	10	10
Ripple	1%	1%	1%	1%
Relays (1) Class A and C				
Voltage AC—maximum	240	240	240	240
Voltage DC—maximum	120	120	120	120
Amps—maximum	3	3	3	3
Environment				
Temperature—operating	–30 to 50°C (no derating) consult factory for operation >50°C	–30 to 50°C (no derating) consult factory for operation >50°C	–30 to 50°C (no derating) consult factory for operation >50°C	–30 to 50°C (no derating) consult factory for operation >50 C
Temperature—storage	–50 to 70°C	–50 to 70°C	–50 to 70°C	–50 to 70°C
Altitude	<2000m—consult factory for operation >2000m	<2000m—consult factory for operation >2000m	<2000m—consult factory for operation >2000m	<2000m—consult factory for operation >2000m
Humidity	<95% noncondensing	<95% noncondensing	<95% noncondensing	<95% noncondensing
Operating position	Any	Any	Any	Any
Pollution degree IEC947-1	3	3	3	3
Impulse withstand voltage IEC947-4-1	6000V	6000V	6000V	6000V

Notes

- ① U-Frame 500A unit does not have IEC certification.
- ② UL recognized component.

Soft Starters—S801, continued

Description	S801 Soft Starter (Partial Catalog Number)			
	S801U42	S801U50 ^①	S801V36	S801V42
Max. current capacity	420	500	360	420
General Information				
Bypass mechanical lifespan	10M	10M	10M	10M
Insulating voltage U _i	660V	660V	660V	660V
Ramp time range	0.5–180 seconds (0.5–360 seconds extended ramp)	0.5–180 seconds (0.5–360 seconds extended ramp)	0.5–180 seconds (0.5–360 seconds extended ramp)	0.5–180 seconds (0.5–360 seconds extended ramp)
Resistance to vibration	3g	3g	3g	3g
Resistance to shock	15g	15g	15g	15g
Electrical Information				
Operating voltage	200–600V	200–600V	200–600V	200–600V
Operating frequency	47–63 Hz	47–63 Hz	47–63 Hz	47–63 Hz
Overload setting	30–100%	30–100%	30–100%	30–100%
Trip class	5, 10, 20 and 30	5, 10, 20 and 30	5, 10, 20 and 30	5, 10, 20 and 30
Cabling Capacity (IEC 947)				
Number of conductors	1 or 2	1 or 2	2, 4 or 6	2, 4 or 6
Wire sizes	4 AWG to 500 kcmil	4 AWG to 500 kcmil	2/0 to 500 kcmil	2/0 to 500 kcmil
Type of connectors	Add-on lug kit	Add-on lug kit	Add-on lug kit	Add-on lug kit
Control Wiring (12-Pin)				
Wire sizes in AWG	22–14	22–14	22–14	22–14
Number of conductors (stranded)	2 (or one AWG 12)	2 (or one AWG 12)	2 (or one AWG 12)	2 (or one AWG 12)
Torque requirements in lb-in	3.5	3.5	3.5	3.5
Solid, stranded or flexible max. size in mm ²	3.31	3.31	3.31	3.31
Control Power Requirements				
Voltage range (24V ±10%)	21.6–26.4	21.6–26.4	21.6–26.4	21.6–26.4
Steady-state current amps	1.0	1.0	1.4	1.4
Inrush current amps	10	10	10	10
Ripple	1%	1%	1%	1%
Relays (1) Class A and C				
Voltage AC—maximum	240	240	240	240
Voltage DC—maximum	120	120	120	120
Amps—maximum	3	3	3	3
Environment				
Temperature—operating	–30 to 50°C (no derating) consult factory for operation >50°C	–30 to 50°C (no derating) consult factory for operation >50°C	–30 to 50°C (no derating) consult factory for operation >50°C	–30 to 50°C (no derating) consult factory for operation >50°C
Temperature—storage	–50 to 70°C	–50 to 70°C	–50 to 70°C	–50 to 70°C
Altitude	<2000m—consult factory for operation >2000m	<2000m—consult factory for operation >2000m	<2000m—consult factory for operation >2000m	<2000m—consult factory for operation >2000m
Humidity	<95% noncondensing	<95% noncondensing	<95% noncondensing	<95% noncondensing
Operating position	Any	Any	Any	Any
Pollution degree IEC947-1	3	3	3	3
Impulse withstand voltage IEC947-4-1	6000V	6000V	6000V	6000V

Note

① U-Frame 500A unit does not have IEC certification.

Soft Starters—S801, continued

Description	S801 Soft Starter (Partial Catalog Number)				
	S801V50	S801V65	S801V72	S801V85	S801V10 ^①
Max. current capacity	500	650	720	850	1000
Dimensions					
Width in inches (mm)	11.03 (280.2)	11.03 (280.2)	11.03 (280.2)	11.03 (280.2)	11.03 (280.2)
Height in inches (mm)	16.57 (420.8)	16.57 (420.8)	16.57 (420.8)	16.57 (420.8)	16.57 (420.8)
Depth in inches (mm)	7.23 (183.7)	7.23 (183.7)	7.23 (183.7)	7.23 (183.7)	7.23 (183.7)
Weight in lbs (kg)	103 (46.8) with lugs 91 (41.4) without lugs	103 (46.8) with lugs 91 (41.4) without lugs	103 (46.8) with lugs 91 (41.4) without lugs	103 (46.8) with lugs 91 (41.4) without lugs	103 (46.8) with lugs 91 (41.4) without lugs
General Information					
Bypass mechanical lifespan	10M	10M	10M	10M	10M
Insulating voltage U _i	660V	660V	660V	660V	660V
Ramp time range	0.5–180 seconds (0.5–360 seconds extended ramp)	0.5–180 seconds (0.5–360 seconds extended ramp)	0.5–180 seconds (0.5–360 seconds extended ramp)	0.5–180 seconds (0.5–360 seconds extended ramp)	0.5–180 seconds (0.5–360 seconds extended ramp)
Resistance to vibration	3g	3g	3g	3g	3g
Resistance to shock	15g	15g	15g	15g	15g
Electrical Information					
Operating voltage	200–600V	200–600V	200–600V	200–600V	200–600V
Operating frequency	47–63 Hz	47–63 Hz	47–63 Hz	47–63 Hz	47–63 Hz
Overload setting	30–100%	30–100%	30–100%	30–100%	30–100%
Trip class	5, 10, 20 and 30	5, 10, 20 and 30	5, 10, 20 and 30	5, 10, 20 and 30	5, 10, 20 and 30
Cabling Capacity (IEC 947)					
Number of conductors	2, 4 or 6	2, 4 or 6	2, 4 or 6	2, 4 or 6	2, 4 or 6
Wire sizes	2/0 to 500 kcmil	2/0 to 500 kcmil	2/0 to 500 kcmil	2/0 to 500 kcmil	2/0 to 500 kcmil
Type of connectors	Add-on lug kit	Add-on lug kit	Add-on lug kit	Add-on lug kit	Add-on lug kit
Control Wiring (12-Pin)					
Wire sizes in AWG	22–14	22–14	22–14	22–14	22–14
Number of conductors (stranded)	2 (or one AWG 12)	2 (or one AWG 12)	2 (or one AWG 12)	2 (or one AWG 12)	2 (or one AWG 12)
Torque requirements in lb-in	3.5	3.5	3.5	3.5	3.5
Solid, stranded or flexible max. size in mm ²	3.31	3.31	3.31	3.31	3.31
Control Power Requirements					
Voltage range (24V ±10%)	21.6–26.4	21.6–26.4	21.6–26.4	21.6–26.4	21.6–26.4
Steady-state current amps	1.4	1.4	1.4	1.4	1.4
Inrush current amps	10	10	10	10	10
Ripple	1%	1%	1%	1%	1%
Relays (1) Class A and C					
Voltage AC—maximum	240	240	240	240	240
Voltage DC—maximum	120	120	120	120	120
Amps—maximum	3	3	3	3	3
Environment					
Temperature—operating	–30 to 50°C (no derating) consult factory for operation >50°C	–30 to 50°C (no derating) consult factory for operation >50°C	–30 to 50°C (no derating) consult factory for operation >50°C	–30 to 50°C (no derating) consult factory for operation >50°C	–30 to 50°C (no derating) consult factory for operation >50°C
Temperature—storage	–50 to 70°C	–50 to 70°C	–50 to 70°C	–50 to 70°C	–50 to 70°C
Altitude	<2000m—consult factory for operation >2000m	<2000m—consult factory for operation >2000m	<2000m—consult factory for operation >2000m	<2000m—consult factory for operation >2000m	<2000m—consult factory for operation >2000m
Humidity	<95% noncondensing	<95% noncondensing	<95% noncondensing	<95% noncondensing	<95% noncondensing
Operating position	Any	Any	Any	Any	Any
Pollution degree IEC947-1	3	3	3	3	3
Impulse withstand voltage IEC947-4-1	6000V	6000V	6000V	6000V	6000V

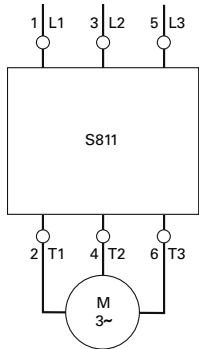
Note

① UL recognized component.

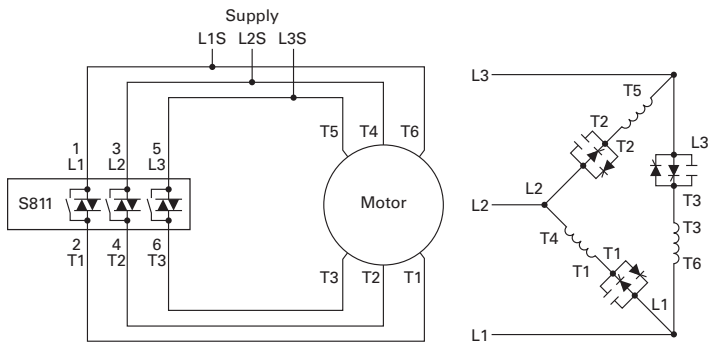
1

Wiring Diagrams

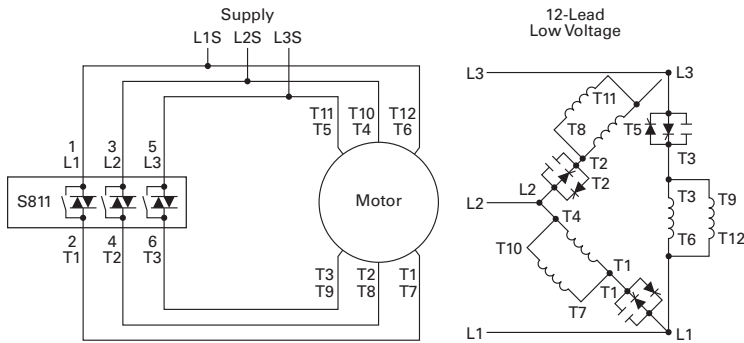
Line Connected Soft Starter



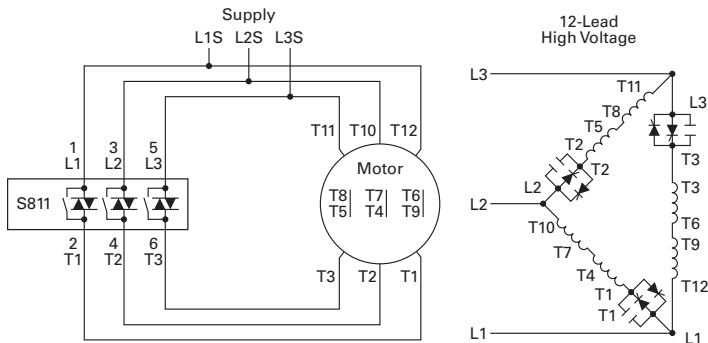
Inside-the-Delta Connected Soft Starter for a 6-Lead Motor



Inside-the-Delta Connected Soft Starter for a 12-Lead Low Voltage Motor



Inside-the-Delta Connected Soft Starter for a 12-Lead High Voltage Motor



Dimensions

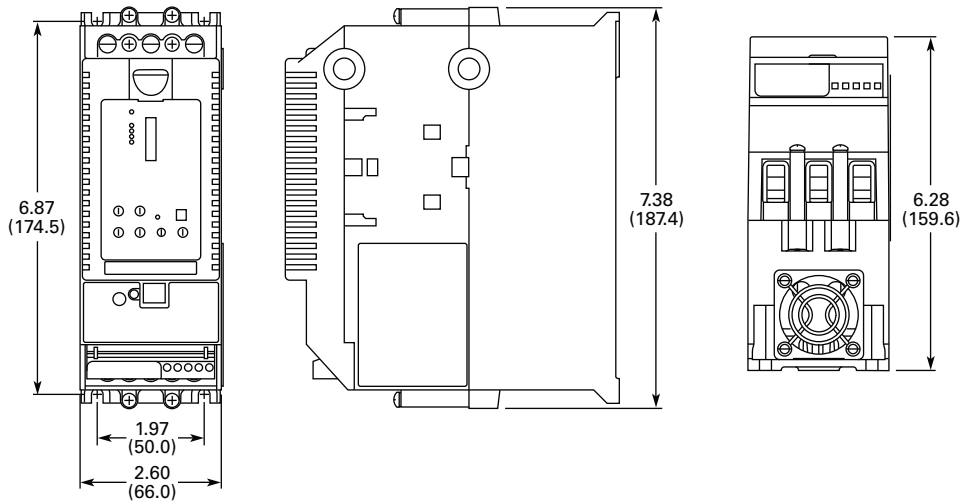
Approximate Dimensions in Inches (mm)

Soft Starters—S801

Partial Catalog Number	W	H	D	Weight in Lbs (kg)
S801N37	2.60 (66.0)	7.38 (187.4)	6.63 (168.4)	5.8 (2.6)
S801N66	2.60 (66.0)	7.38 (187.4)	6.63 (168.4)	5.8 (2.6)
S801R10	4.37 (111.0)	7.92 (201.1)	7.03 (178.6)	10.5 (4.8)
S801R13	4.37 (111.0)	7.92 (201.1)	7.03 (178.6)	10.5 (4.8)
S801T18	7.65 (194.4)	12.71 (322.9)	6.69 (169.8)	48 (21.8) with lugs 41 (18.6) without lugs
S801T24	7.65 (194.4)	12.71 (322.9)	6.69 (169.8)	48 (21.8) with lugs 41 (18.6) without lugs
S801T30	7.65 (194.4)	12.71 (322.9)	6.69 (169.8)	48 (21.8) with lugs 41 (18.6) without lugs
S801U36	7.73 (196.3)	12.72 (323.1)	7.08 (179.9)	48 (21.8) with lugs 41 (18.6) without lugs
S801U42	7.73 (196.3)	12.72 (323.1)	7.08 (179.9)	48 (21.8) with lugs 41 (18.6) without lugs
S801U50	7.73 (196.3)	12.72 (323.1)	7.08 (179.9)	48 (21.8) with lugs 41 (18.6) without lugs
S801V36	11.03 (280.2)	16.57 (420.8)	7.23 (183.7)	103 (46.8) with lugs 91 (41.4) without lugs
S801V42	11.03 (280.2)	16.57 (420.8)	7.23 (183.7)	103 (46.8) with lugs 91 (41.4) without lugs
S801V50	11.03 (280.2)	16.57 (420.8)	7.23 (183.7)	103 (46.8) with lugs 91 (41.4) without lugs
S801V65	11.03 (280.2)	16.57 (420.8)	7.23 (183.7)	103 (46.8) with lugs 91 (41.4) without lugs
S801V72	11.03 (280.2)	16.57 (420.8)	7.23 (183.7)	103 (46.8) with lugs 91 (41.4) without lugs
S801V85	11.03 (280.2)	16.57 (420.8)	7.23 (183.7)	103 (46.8) with lugs 91 (41.4) without lugs
S801V10	11.03 (280.2)	16.57 (420.8)	7.23 (183.7)	103 (46.8) with lugs 91 (41.4) without lugs

Also refer to dimension drawings below and on **Pages V6-T1-82 and V6-T1-83.**

N-Frame (65 mm) S801



1.2

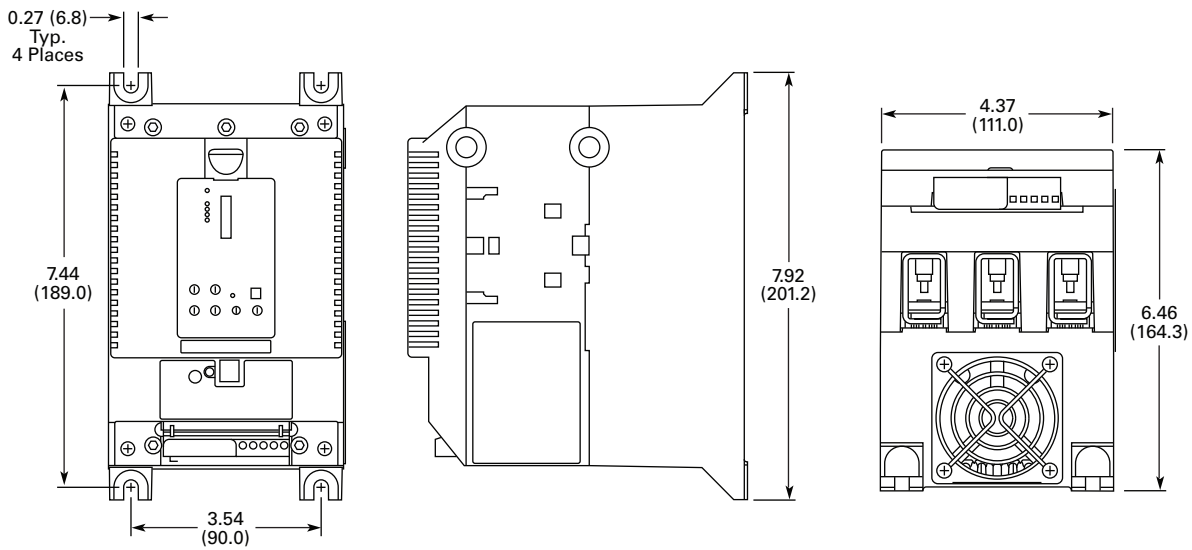
Reduced Voltage Motor Starters

Solid-State Starters

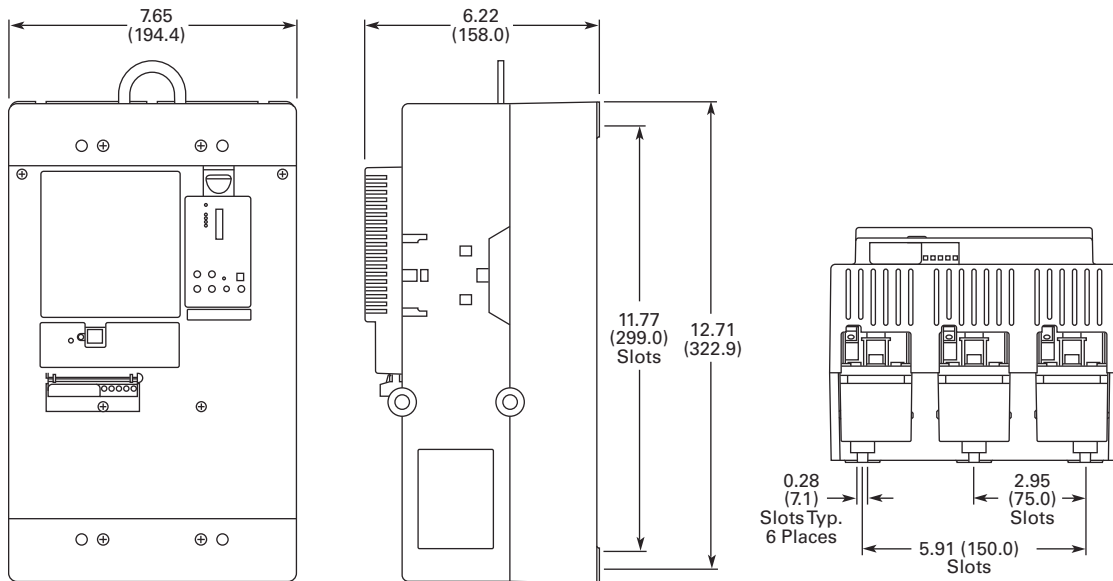
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Approximate Dimensions in Inches (mm)

R-Frame (110 mm) S801

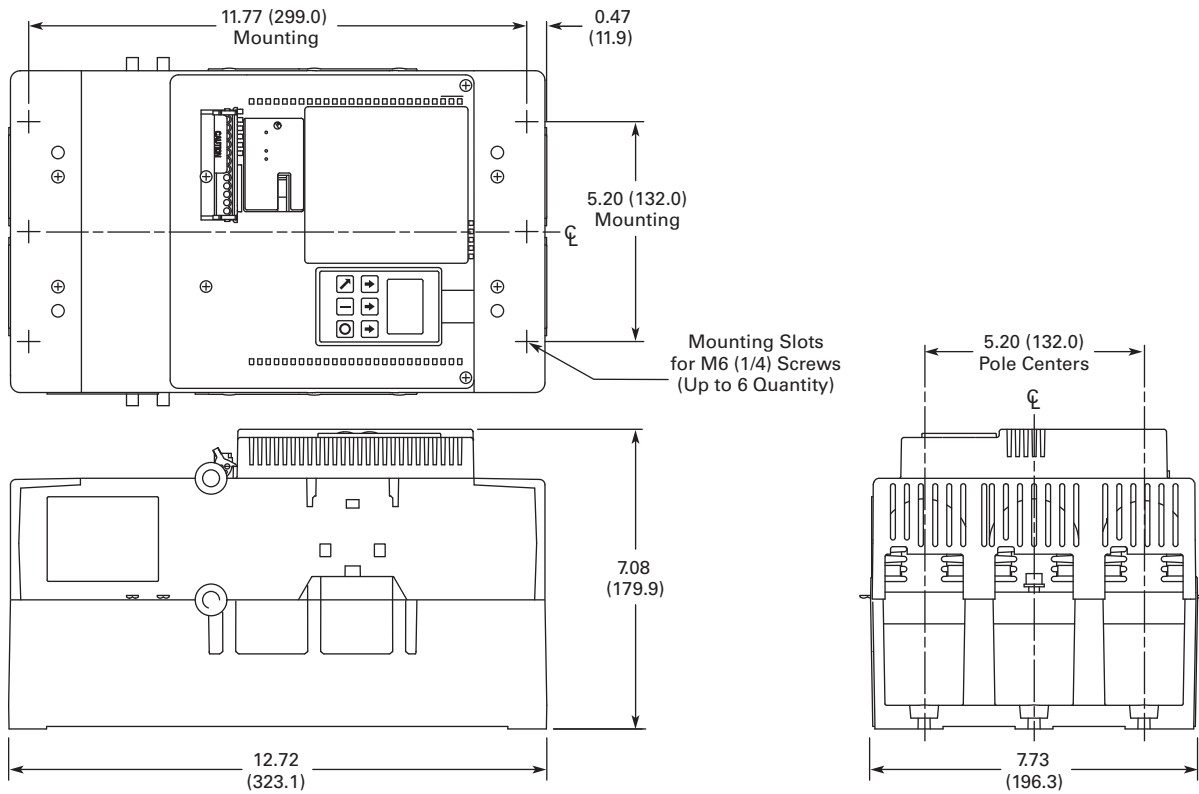


T-Frame (200 mm) S801

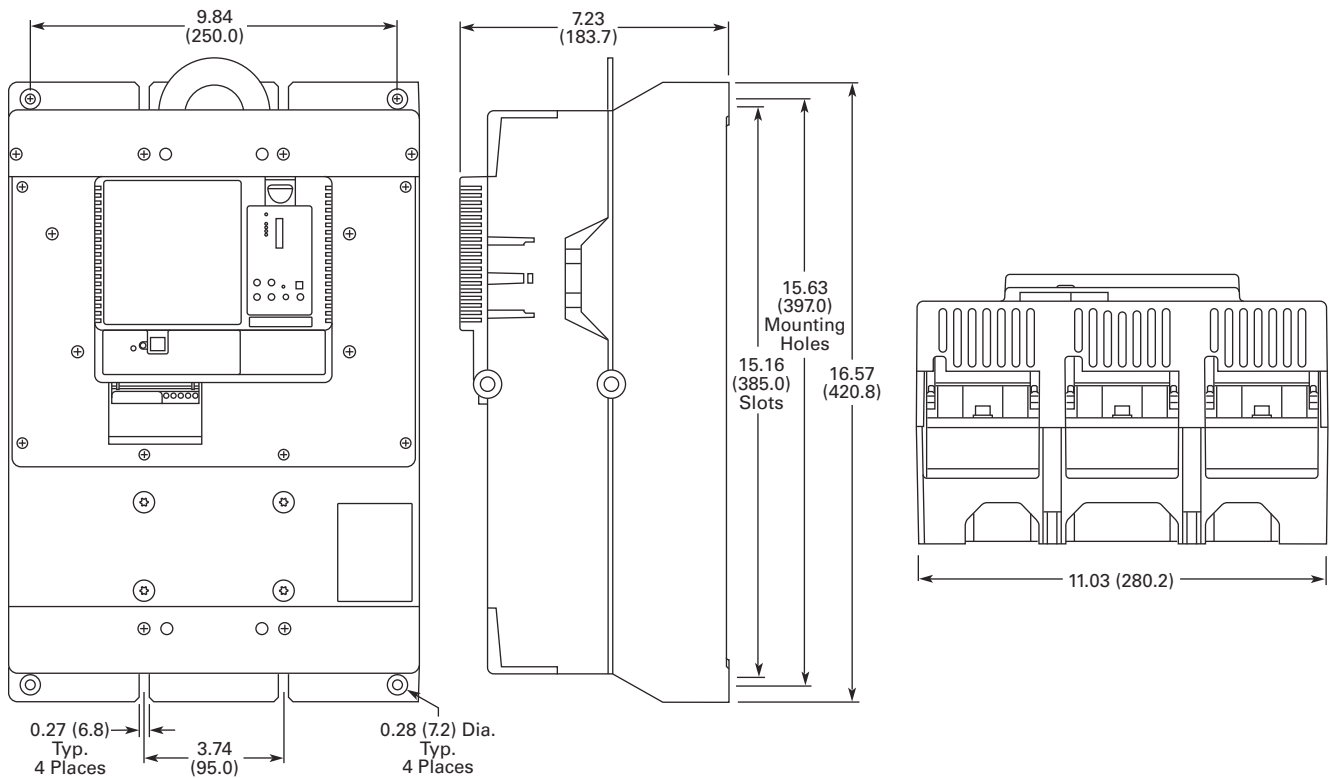


Approximate Dimensions in Inches (mm)

U-Frame (200 mm) S801



V-Frame (290 mm) S801



Type S811, Soft Starters with DIM



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Type S811, Soft Starters with DIM

Product Description

Eaton's S811 offers all the popular features of the S801, but adds enhanced functionality with the new DIM (Digital Interface Module), communications, metering, monitoring and diagnostics capabilities.

Eaton's line of S811 reduced voltage soft starters is very compact, multi-functional, easy to install and easy to set operating parameters. Designed to control the acceleration and deceleration of three-phase motors up to 690V, the line is available from 11–1000A.

The S811 is designed to be a complete package combining the silicon controlled rectifiers (SCRs), bypass contactor and overload in one, very compact unit. The S811 is available as a component for panel mounting, in motor control centers or in enclosed control (NEMA Type 1, 3R, 4, 4X, 7/9 and 12).

Application Description

Designed to control the acceleration and deceleration of three-phase motors, the S811 soft starter uses SCRs to control the voltage to soft start and soft stop the motor. After the motor is started, internal run bypass contactors close, resulting in the motor running directly across-the-line. The built-in solid-state overload protects the motor from overload conditions with sophisticated algorithms that model true motor heating, resulting in better motor protection and fewer nuisance trips. Advanced protective and diagnostic features reduce downtime.

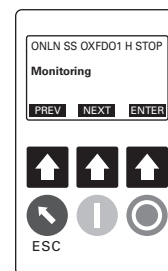
A voltage ramp start or current limit start is available. Kick start is available in either starting mode. The soft stop option allows for a ramp stop time that is longer than the coast to stop time. The pump control option provides a smooth transition for starting and stopping a motor and eliminating the "water-hammer" effect that can damage pipes, valves and pumps.

The S811 offers an impressive array of advanced protective features. Not only are the protective features selectable, but many offer variable settings and adjustable time delays to ride through system discrepancies.

The S811 has an easy to use Digital Interface Module (DIM) that allows the user to configure the device and to read system parameters and monitor system values. The DIM includes an LCD display and keypad to scroll through the various menus. The DIM allows the user to modify control parameters, enable or disable protections, set communication variables, monitor system parameters such as line voltages and currents, and access the fault queue.

The DIM can be removed from the S811 and remote mounted. Kits are available to door mount the DIM, enabling users to safely configure, commission, monitor and troubleshoot the system at the electrical panel without opening the enclosure door. This will help eliminate the possibility of an arc flash incident.

Digital Interface Module (DIM)



Communications

The S811 has built-in communication capabilities through Eaton’s QC (Quick Connect) Port. QCPort™ enables the soft starter to be connected to a variety of networks, including DeviceNet™, EtherNet/Modbus, EtherNet/IP and PROFIBUS. The advantage of QCPort is that multiple control components can be connected to one Eaton D77D gateway.

The gateway concentrates data from the devices into a single node. Configuration is simple—a single press of the gateway’s Auto Configuration button sets the system up for default operation. This automatically configures the I/O assemblies to the QCPort system devices. The data from these devices are then assembled into single input and output messages

The S811 communication parameters can be configured with the DIM or through the Fieldbus using CH Studio Component Manager. Advanced communication configuration settings provide the system integrator with powerful tools to facilitate system optimization

Communications Reference

Description	Part Number
DeviceNet network adapter	D77D-DNA
EtherNet Modbus network adapter	D77D-EMA
EtherNet/IP network adapter	D77D-EIP
PROFIBUS network adapter	D77D-PNA
Terminator and power tap	D77E-QPLR
DIN rail communications backplane, 7-position	D77E-BP7
DIN rail communications backplane, 12-position	D77E-BP12
85–264 Vac input, 24 Vdc output	PSG240E
360–575 Vac input, 24 Vdc output	PSG240F

S811 Connection

