

Reduced Voltage Starter



Product Description

Eaton’s revolutionary design for soft starters is shown in the S801+ and S811+ soft starter products that are members of the Intelligent Technologies (*IT*) family of products. These reduced voltage soft starters are the most compact, multi-functional, easy-to-install products on the market. Their superiority begins with the control package, which features 24 Vdc control, onboard Digital Signal Processor (DSP), and use of a low impedance run contactor, all of which contribute to the *IT* soft starter’s safety, advanced functionality and compact size.

Designed to control acceleration and deceleration of three-phase motors, products are available from 11 to 1000 amps and are suitable for mounting in a variety of enclosures including Type 1, 12, 3R, 4, 4X and 7/9.

- Built-in overload protection
 - Adjustable trip class 5, 10, 20, 30
 - Programmable, 31–100% FLA (3.2:1)
 - Selectable phase loss protection
- Selectable current limit or ramp start
- Adjustable ramp times
 - 0–180 seconds standard
 - Extended ramps available
- Adjustable torque control
- Adjustable kick start control
- Soft stop control
 - 0–60 seconds standard
 - Extended times available
- Built-in low impedance contactor
- Six SCR control in all units
- Selectable phase reversal protection
- Digital interface module

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Features and Benefits

- Mechanical stress on system
 - Reduced wear on belts, gears, chains, clutches, shafts and bearings. You can get up to 2–6 times the life on standard belts by switching to a soft starter
 - Elimination of water-hammer in pumping applications extends component life and helps limit leakage in system
 - Lower shock to product on conveyor lines and material handling gear
 - Able to catch motors and fans on the fly and control their acceleration
- Electrical system improvements
 - Limits the peak inrush current as required by many local codes
 - Helps to eliminate sags on the plant electrical grid when starting large loads, thus avoiding brownout conditions
- 24 Vdc advantages
 - Offers improved personnel safety by eliminating the need for 120 Vac in the enclosure
 - Soft starter able to ride through 50% voltage conditions indefinitely due to 24 Vdc power supply and 0% for up to 100 mS
 - 690V option available on 180A ratings and larger

Digital Interface Module

The S811+ has an easy to use Digital Interface Module (DIM) that allows the user to configure the device and to read system parameters. 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.

Additional Reference

Cover Control	V10-T5-18
Dimensions	Tab 14
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Options

LCD Display

- 2 line x 20 character LED back-lit LCD display
- NEMA 4 rated
- Parameters
 - Voltage L-L (AB, BC, AC)
 - Phase current
 - Average current
 - Overload current setting
 - Pole temperature
 - Relay trip class
 - Thermal pile
 - Average line current as % of FLA
 - DC control voltage
 - Start count
 - Fault history
- English or Spanish version

Options

Description	Modification Code
Pump control option	P42
Door mount keypad	K5
Extended ramp	R1

Pump Control Option

- Designed to reduce “water-hammer” during start-up and stopping sequences
- Stop ramp extended to 120 seconds to help control larger motors and systems with long piping runs

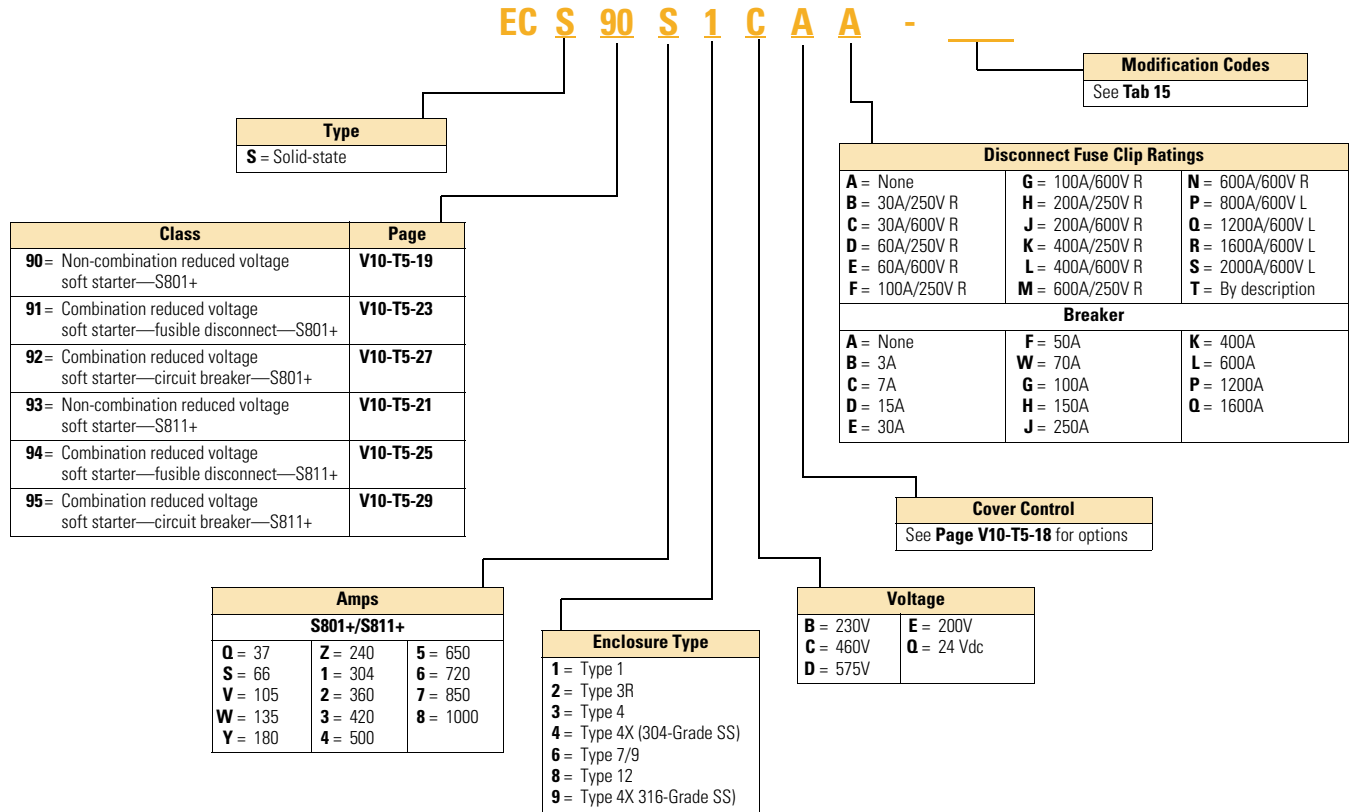
Standards and Certifications

Note: See **Tab 17** for additional information on standards and certifications that apply to all enclosed control products.

- UL Listed
- IEC 947-4-2
- EN 60947.2 (for motor controller)
- cUL (indicates appropriate CSA Standard investigation)
- ABS Type Approved
- OSHPD Certified (OSP-0015-10)

Catalog Number Selection

IT. Solid-State Soft Starters



Cover Control

Flange Control Kits

For on-the-job conversion of Type 1, 3R, 4, 4X and 12 enclosed starters. Knockouts are provided on the Type 1 flange. Type 3R, 4, 4X and 12 have prepunched holes with removable hole plugs.

Factory Installed Pilot Devices

To order factory installed pilot devices, change the ninth character of the catalog number to the alpha shown in the table below. Example: To order an **ECS90J4CAA** with START/STOP pushbuttons and a red pilot light, change the **A** to a **C**, that is, **ECS90J4CCA**.

10250T Cover Control Kits



Non-Reversing Pilot Devices

Description	Factory Installed Flange Control Position 9 Alpha	Field Installation Kits Catalog Number
No cover mounted pilot devices	A	—
START/STOP pushbuttons	B	C400T1
With red RUN pilot light	C	—
With red RUN/green OFF lights	D	—
ON/OFF pushbuttons	E	C400T2
With red RUN pilot light	F	—
With red RUN/green OFF lights	G	—
HAND/OFF/AUTO selector switch	H	C400T12
With red RUN pilot light	J	—
With red RUN/green OFF lights	K	—
START pushbutton	L	C400T3
ON pushbutton	M	C400T4
OFF pushbutton	N	C400T5
Red RUN pilot light	P	C400T9 ①
Green OFF	Q	C400T10 ①
Red RUN/green OFF pilot lights	R	C400T11 ①
START/STOP selector switch	S	C400T13
With red RUN pilot light	T	—
With red RUN/green OFF lights	U	—
ON/OFF selector switch	V	C400T14
With red RUN pilot light	W	—
With red RUN/green OFF lights	X	—

Note

① Add code letter from the table below to catalog number for voltage—kits only. Example: C400T9**B**.

Rating	Code Letter	Rating	Code Letter	Rating	Code Letter
120V 60 Hz	A	240V 60 Hz	B	480V 60 Hz	C
208V 60 Hz	E	380V 50 Hz	L	600V 60 Hz	D

Product Selection

Non-Combination

Class ECS90—Non-Combination Reduced Voltage Soft Starter—S801+

Amps	Motor Voltage	hp ^{①②}	Coil Voltage ^③	Type 1 Catalog Number	Type 3R Catalog Number	Type 4X ^④ Catalog Number	Type 7/9 Catalog Number	Type 12 Catalog Number	Component Soft Starter (Open) Catalog Number
Frame Size—65 mm									
37A	200V	10	24 Vdc	ECS90Q1EAA	ECS90Q2EAA	ECS90Q4EAA	ECS90Q6EAA	ECS90Q8EAA	S801+N37N3S
	230V	10		ECS90Q1BAA	ECS90Q2BAA	ECS90Q4BAA	ECS90Q6BAA	ECS90Q8BAA	
	460V	20		ECS90Q1CAA	ECS90Q2CAA	ECS90Q4CAA	ECS90Q6CAA	ECS90Q8CAA	
	575V	30		ECS90Q1DAA	ECS90Q2DAA	ECS90Q4DAA	ECS90Q6DAA	ECS90Q8DAA	
66A	200V	15	24 Vdc	ECS90S1EAA	ECS90S2EAA	ECS90S4EAA	ECS90S6EAA	ECS90S8EAA	S801+N66N3S
	230V	20		ECS90S1BAA	ECS90S2BAA	ECS90S4BAA	ECS90S6BAA	ECS90S8BAA	
	460V	40		ECS90S1CAA	ECS90S2CAA	ECS90S4CAA	ECS90S6CAA	ECS90S8CAA	
	575V	50		ECS90S1DAA	ECS90S2DAA	ECS90S4DAA	ECS90S6DAA	ECS90S8DAA	
Frame Size—110 mm									
105A	200V	25	24 Vdc	ECS90V1EAA	ECS90V2EAA	ECS90V4EAA	ECS90V6EAA	ECS90V8EAA	S801+R10N3S
	230V	30		ECS90V1BAA	ECS90V2BAA	ECS90V4BAA	ECS90V6BAA	ECS90V8BAA	
	460V	60		ECS90V1CAA	ECS90V2CAA	ECS90V4CAA	ECS90V6CAA	ECS90V8CAA	
	575V	75		ECS90V1DAA	ECS90V2DAA	ECS90V4DAA	ECS90V6DAA	ECS90V8DAA	
135A	200V	30	24 Vdc	ECS90W1EAA	ECS90W2EAA	ECS90W4EAA	ECS90W6EAA	ECS90W8EAA	S801+R13N3S
	230V	40		ECS90W1BAA	ECS90W2BAA	ECS90W4BAA	ECS90W6BAA	ECS90W8BAA	
	460V	75		ECS90W1CAA	ECS90W2CAA	ECS90W4CAA	ECS90W6CAA	ECS90W8CAA	
	575V	100		ECS90W1DAA	ECS90W2DAA	ECS90W4DAA	ECS90W6DAA	ECS90W8DAA	
Frame Size—200 mm									
180A	200V	50	24 Vdc	ECS90Y1EAA	ECS90Y2EAA	ECS90Y4EAA	ECS90Y6EAA	ECS90Y8EAA	S801+T18N3S
	230V	60		ECS90Y1BAA	ECS90Y2BAA	ECS90Y4BAA	ECS90Y6BAA	ECS90Y8BAA	
	460V	125		ECS90Y1CAA	ECS90Y2CAA	ECS90Y4CAA	ECS90Y6CAA	ECS90Y8CAA	
	575V	150		ECS90Y1DAA	ECS90Y2DAA	ECS90Y4DAA	ECS90Y6DAA	ECS90Y8DAA	
240A	200V	60	24 Vdc	ECS90Z1EAA	ECS90Z2EAA	ECS90Z4EAA	ECS90Z6EAA	ECS90Z8EAA	S801+T24N3S
	230V	75		ECS90Z1BAA	ECS90Z2BAA	ECS90Z4BAA	ECS90Z6BAA	ECS90Z8BAA	
	460V	150		ECS90Z1CAA	ECS90Z2CAA	ECS90Z4CAA	ECS90Z6CAA	ECS90Z8CAA	
	575V	200		ECS90Z1DAA	ECS90Z2DAA	ECS90Z4DAA	ECS90Z6DAA	ECS90Z8DAA	
304A	200V	75	24 Vdc	ECS9011EAA	ECS9012EAA	ECS9014EAA	ECS9016EAA	ECS9018EAA	S801+T30N3S
	230V	100		ECS9011BAA	ECS9012BAA	ECS9014BAA	ECS9016BAA	ECS9018BAA	
	460V	200		ECS9011CAA	ECS9012CAA	ECS9014CAA	ECS9016CAA	ECS9018CAA	
	575V	250		ECS9011DAA	ECS9012DAA	ECS9014DAA	ECS9016DAA	ECS9018DAA	

Notes

- ① Standard duty horsepower ratings are for 300% ramp current, 30 seconds ramp time, and three starts per hour. Consult Eaton for other ratings.
- ② Based on 1.15 service factor.
- ③ All *IT* soft starters are furnished with 24 Vdc coils and control power supplies. For 24 Vdc separate control, use modification code C35 and change the eighth digit to **Q** (that is, ECS90S1EAA becomes ECS90S1QAA-C35).
- ④ The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECS90S4EAA. To order Type 4X 316-Grade stainless steel, change that digit to **9**. To order Type 4 painted steel, change that digit to **3**. To order non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

5.2

Reduced Voltage Starter

S801+/S811+ *IT*. Solid-State Soft Starters

Class ECS90—Non-Combination Reduced Voltage Soft Starter—S801+, continued

Amps	Motor Voltage	hp ^{①②}	Coil Voltage ^③	Type 1 Catalog Number	Type 3R Catalog Number	Type 4X ^④ Catalog Number	Type 7/9 Catalog Number	Type 12 Catalog Number	Component Soft Starter (Open) Catalog Number
Frame Size—290 mm									
360A	200V	100	24 Vdc	ECS9021EAA	ECS9022EAA	ECS9024EAA	ECS9026EAA	ECS9028EAA	S801+V36N3S
	230V	125		ECS9021BAA	ECS9022BAA	ECS9024BAA	ECS9026BAA	ECS9028BAA	
	460V	250		ECS9021CAA	ECS9022CAA	ECS9024CAA	ECS9026CAA	ECS9028CAA	
	575V	300		ECS9021DAA	ECS9022DAA	ECS9024DAA	ECS9026DAA	ECS9028DAA	
420A	200V	125	24 Vdc	ECS9031EAA	ECS9032EAA	ECS9034EAA	ECS9036EAA	ECS9038EAA	S801+V42N3S
	230V	150		ECS9031BAA	ECS9032BAA	ECS9034BAA	ECS9036BAA	ECS9038BAA	
	460V	300		ECS9031CAA	ECS9032CAA	ECS9034CAA	ECS9036CAA	ECS9038CAA	
	575V	350		ECS9031DAA	ECS9032DAA	ECS9034DAA	ECS9036DAA	ECS9038DAA	
500A	200V	150	24 Vdc	ECS9041EAA	ECS9042EAA	ECS9044EAA	ECS9046EAA	ECS9048EAA	S801+V50N3S
	230V	150		ECS9041BAA	ECS9042BAA	ECS9044BAA	ECS9046BAA	ECS9048BAA	
	460V	350		ECS9041CAA	ECS9042CAA	ECS9044CAA	ECS9046CAA	ECS9048CAA	
	575V	450		ECS9041DAA	ECS9042DAA	ECS9044DAA	ECS9046DAA	ECS9048DAA	
650A	200V	200	24 Vdc	ECS9051EAA	ECS9052EAA	ECS9054EAA	ECS9056EAA	ECS9058EAA	S801+V65N3S
	230V	200		ECS9051BAA	ECS9052BAA	ECS9054BAA	ECS9056BAA	ECS9058BAA	
	460V	450		ECS9051CAA	ECS9052CAA	ECS9054CAA	ECS9056CAA	ECS9058CAA	
	575V	500		ECS9051DAA	ECS9052DAA	ECS9054DAA	ECS9056DAA	ECS9058DAA	
720A	230V	250	24 Vdc	ECS9061BAA	ECS9062BAA	ECS9064BAA	ECS9066BAA	ECS9068BAA	S801+V72N3S
	460V	500		ECS9061CAA	ECS9062CAA	ECS9064CAA	ECS9066CAA	ECS9068CAA	
	575V	600		ECS9061DAA	ECS9062DAA	ECS9064DAA	ECS9066DAA	ECS9068DAA	
850A	230V	300	24 Vdc	ECS9071BAA	ECS9072BAA	ECS9074BAA	ECS9076BAA	ECS9078BAA	S801+V85N3S
	460V	600		ECS9071CAA	ECS9072CAA	ECS9074CAA	ECS9076CAA	ECS9078CAA	
	575V	700		ECS9071DAA	ECS9072DAA	ECS9074DAA	ECS9076DAA	ECS9078DAA	
1000A	230V	350	24 Vdc	ECS9081BAA	ECS9082BAA	ECS9084BAA	ECS9086BAA	ECS9088BAA	S801+V10N3S
	460V	700		ECS9081CAA	ECS9082CAA	ECS9084CAA	ECS9086CAA	ECS9088CAA	
	575V	800		ECS9081DAA	ECS9082DAA	ECS9084DAA	ECS9086DAA	ECS9088DAA	

Notes

- ① Standard duty horsepower ratings are for 300% ramp current, 30 seconds ramp time, and three starts per hour. Consult Eaton for other ratings.
- ② Based on 1.15 service factor.
- ③ All *IT* soft starters are furnished with 24 Vdc coils and control power supplies. For 24 Vdc separate control, use modification code **C35** and change the eighth digit to **Q** (that is, ECS90S1EAA becomes ECS90S1QAA-C35).
- ④ The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECS90S4EAA. To order Type 4X 316-Grade stainless steel, change that digit to **9**. To order Type 4 painted steel, change that digit to **3**. To order non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

Class ECS93—Non-Combination Reduced Voltage Soft Starter—S811+ ①

Amps	Motor Voltage	hp ②③	Coil Voltage ④	Type 1 Catalog Number	Type 3R Catalog Number	Type 4X ⑤ Catalog Number	Type 7/9 Catalog Number	Type 12 Catalog Number	Component Soft Starter (Open) Catalog Number
Frame Size—65 mm									
37A	200V	10	24 Vdc	ECS93Q1EAA	ECS93Q2EAA	ECS93Q4EAA	ECS93Q6EAA	ECS93Q8EAA	S811+N37N3S
	230V	10		ECS93Q1BAA	ECS93Q2BAA	ECS93Q4BAA	ECS93Q6BAA	ECS93Q8BAA	
	460V	20		ECS93Q1CAA	ECS93Q2CAA	ECS93Q4CAA	ECS93Q6CAA	ECS93Q8CAA	
	575V	30		ECS93Q1DAA	ECS93Q2DAA	ECS93Q4DAA	ECS93Q6DAA	ECS93Q8DAA	
66A	200V	15	24 Vdc	ECS93S1EAA	ECS93S2EAA	ECS93S4EAA	ECS93S6EAA	ECS93S8EAA	S811+N66N3S
	230V	20		ECS93S1BAA	ECS93S2BAA	ECS93S4BAA	ECS93S6BAA	ECS93S8BAA	
	460V	40		ECS93S1CAA	ECS93S2CAA	ECS93S4CAA	ECS93S6CAA	ECS93S8CAA	
	575V	50		ECS93S1DAA	ECS93S2DAA	ECS93S4DAA	ECS93S6DAA	ECS93S8DAA	
Frame Size—110 mm									
105A	200V	25	24 Vdc	ECS93V1EAA	ECS93V2EAA	ECS93V4EAA	ECS93V6EAA	ECS93V8EAA	S811+R10N3S
	230V	30		ECS93V1BAA	ECS93V2BAA	ECS93V4BAA	ECS93V6BAA	ECS93V8BAA	
	460V	60		ECS93V1CAA	ECS93V2CAA	ECS93V4CAA	ECS93V6CAA	ECS93V8CAA	
	575V	75		ECS93V1DAA	ECS93V2DAA	ECS93V4DAA	ECS93V6DAA	ECS93V8DAA	
135A	200V	30	24 Vdc	ECS93W1EAA	ECS93W2EAA	ECS93W4EAA	ECS93W6EAA	ECS93W8EAA	S811+R13N3S
	230V	40		ECS93W1BAA	ECS93W2BAA	ECS93W4BAA	ECS93W6BAA	ECS93W8BAA	
	460V	75		ECS93W1CAA	ECS93W2CAA	ECS93W4CAA	ECS93W6CAA	ECS93W8CAA	
	575V	100		ECS93W1DAA	ECS93W2DAA	ECS93W4DAA	ECS93W6DAA	ECS93W8DAA	
Frame Size—200 mm									
180A	200V	50	24 Vdc	ECS93Y1EAA	ECS93Y2EAA	ECS93Y4EAA	ECS93Y6EAA	ECS93Y8EAA	S811+T18N3S
	230V	60		ECS93Y1BAA	ECS93Y2BAA	ECS93Y4BAA	ECS93Y6BAA	ECS93Y8BAA	
	460V	125		ECS93Y1CAA	ECS93Y2CAA	ECS93Y4CAA	ECS93Y6CAA	ECS93Y8CAA	
	575V	150		ECS93Y1DAA	ECS93Y2DAA	ECS93Y4DAA	ECS93Y6DAA	ECS93Y8DAA	
240A	200V	60	24 Vdc	ECS93Z1EAA	ECS93Z2EAA	ECS93Z4EAA	ECS93Z6EAA	ECS93Z8EAA	S811+T24N3S
	230V	75		ECS93Z1BAA	ECS93Z2BAA	ECS93Z4BAA	ECS93Z6BAA	ECS93Z8BAA	
	460V	150		ECS93Z1CAA	ECS93Z2CAA	ECS93Z4CAA	ECS93Z6CAA	ECS93Z8CAA	
	575V	200		ECS93Z1DAA	ECS93Z2DAA	ECS93Z4DAA	ECS93Z6DAA	ECS93Z8DAA	
304A	200V	75	24 Vdc	ECS9311EAA	ECS9312EAA	ECS9314EAA	ECS9316EAA	ECS9318EAA	S811+T30N3S
	230V	100		ECS9311BAA	ECS9312BAA	ECS9314BAA	ECS9316BAA	ECS9318BAA	
	460V	200		ECS9311CAA	ECS9312CAA	ECS9314CAA	ECS9316CAA	ECS9318CAA	
	575V	250		ECS9311DAA	ECS9312DAA	ECS9314DAA	ECS9316DAA	ECS9318DAA	

Notes

- ① Digital Interface Module (DIM) is mounted on door as option.
- ② Standard duty horsepower ratings are for 300% ramp current, 30 seconds ramp time, and three starts per hour. Consult Eaton for other ratings.
- ③ Based on 1.15 service factor.
- ④ All *IT* soft starters are furnished with 24 Vdc coils and control power supplies. For 24 Vdc separate control, use modification code **C35** and change the eighth digit to **0** (that is, ECS90S1EAA becomes ECS90S10AA-C35).
- ⑤ The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECS93S4EAA. To order Type 4X 316-Grade stainless steel, change that digit to **9**. To order Type 4 painted steel, change that digit to **3**. To order non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

Class ECS93—Non-Combination Reduced Voltage Soft Starter—S811+, continued ①

Amps	Motor Voltage	hp ②③	Coil Voltage ④	Type 1 Catalog Number	Type 3R Catalog Number	Type 4X ⑤ Catalog Number	Type 7/9 Catalog Number	Type 12 Catalog Number	Component Soft Starter (Open) Catalog Number
Frame Size—290 mm									
360A	200V	100	24 Vdc	ECS9321EAA	ECS9322EAA	ECS9324EAA	ECS9326EAA	ECS9328EAA	S811+V36N3S
	230V	125		ECS9321BAA	ECS9322BAA	ECS9324BAA	ECS9326BAA	ECS9328BAA	
	460V	250		ECS9321CAA	ECS9322CAA	ECS9324CAA	ECS9326CAA	ECS9328CAA	
	575V	300		ECS9321DAA	ECS9322DAA	ECS9324DAA	ECS9326DAA	ECS9328DAA	
420A	200V	125	24 Vdc	ECS9331EAA	ECS9332EAA	ECS9334EAA	ECS9336EAA	ECS9338EAA	S811+V42N3S
	230V	150		ECS9331BAA	ECS9332BAA	ECS9334BAA	ECS9336BAA	ECS9338BAA	
	460V	300		ECS9331CAA	ECS9332CAA	ECS9334CAA	ECS9336CAA	ECS9338CAA	
	575V	350		ECS9331DAA	ECS9332DAA	ECS9334DAA	ECS9336DAA	ECS9338DAA	
500A	200V	150	24 Vdc	ECS9341EAA	ECS9342EAA	ECS9344EAA	ECS9346EAA	ECS9348EAA	S811+V50N3S
	230V	150		ECS9341BAA	ECS9342BAA	ECS9344BAA	ECS9346BAA	ECS9348BAA	
	460V	350		ECS9341CAA	ECS9342CAA	ECS9344CAA	ECS9346CAA	ECS9348CAA	
	575V	450		ECS9341DAA	ECS9342DAA	ECS9344DAA	ECS9346DAA	ECS9348DAA	
650A	200V	200	24 Vdc	ECS9351EAA	ECS9352EAA	ECS9354EAA	ECS9356EAA	ECS9358EAA	S811+V65N3S
	230V	200		ECS9351BAA	ECS9352BAA	ECS9354BAA	ECS9356BAA	ECS9358BAA	
	460V	450		ECS9351CAA	ECS9352CAA	ECS9354CAA	ECS9356CAA	ECS9358CAA	
	575V	500		ECS9351DAA	ECS9352DAA	ECS9354DAA	ECS9356DAA	ECS9358DAA	
720A	230V	250	24 Vdc	ECS9361BAA	ECS9362BAA	ECS9364BAA	ECS9366BAA	ECS9368BAA	S811+V72N3S
	460V	500		ECS9361CAA	ECS9362CAA	ECS9364CAA	ECS9366CAA	ECS9368CAA	
	575V	600		ECS9361DAA	ECS9362DAA	ECS9364DAA	ECS9366DAA	ECS9368DAA	
850A	230V	300	24 Vdc	ECS9371BAA	ECS9372BAA	ECS9374BAA	ECS9376BAA	ECS9378BAA	S811+V85N3S
	460V	600		ECS9371CAA	ECS9372CAA	ECS9374CAA	ECS9376CAA	ECS9378CAA	
	575V	700		ECS9371DAA	ECS9372DAA	ECS9374DAA	ECS9376DAA	ECS9378DAA	
1000A	230V	350	24 Vdc	ECS9381BAA	ECS9382BAA	ECS9384BAA	ECS9386BAA	ECS9388BAA	S811+V10N3S
	460V	700		ECS9381CAA	ECS9382CAA	ECS9384CAA	ECS9386CAA	ECS9388CAA	
	575V	800		ECS9381DAA	ECS9382DAA	ECS9384DAA	ECS9386DAA	ECS9388DAA	

Notes

- ① Digital Interface Module (DIM) is mounted on door as option.
- ② Standard duty horsepower ratings are for 300% ramp current, 30 seconds ramp time, and three starts per hour. Consult Eaton for other ratings.
- ③ Based on 1.15 service factor.
- ④ All *IT* soft starters are furnished with 24 Vdc coils and control power supplies. For 24 Vdc separate control, use modification code **C35** and change the eighth digit to **Q** (that is, ECS90S1EAA becomes ECS90S1QAA-C35).
- ⑤ The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECS93S4EAA. To order Type 4X 316-Grade stainless steel, change that digit to **9**. To order Type 4 painted steel, change that digit to **3**. To order non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

Combination—Fusible Disconnect

Class ECS91—Combination Reduced Voltage Soft Starter—Fusible Disconnect—S801+

Amps	Motor Voltage	hp ^{①②}	Coil Voltage ^③	Switch Rating	Type 1 Catalog Number	Type 3R Catalog Number	Type 4X ^④ Catalog Number	Type 12 Catalog Number	Component Soft Starter (Open) Catalog Number
Frame Size—65 mm									
37A	200V	3	24 Vdc	30A	ECS91Q1EAB	ECS91Q2EAB	ECS91Q4EAB	ECS91Q8EAB	S801+N37N3S
		10			ECS91Q1EAD	ECS91Q2EAD	ECS91Q4EAD	ECS91Q8EAD	
	230V	7-1/2	30A	ECS91Q1BAB	ECS91Q2BAB	ECS91Q4BAB	ECS91Q8BAB	S801+N37N3S	
		10		ECS91Q1BAD	ECS91Q2BAD	ECS91Q4BAD	ECS91Q8BAD		
	460V	15	30A	ECS91Q1CAC	ECS91Q2CAC	ECS91Q4CAC	ECS91Q8CAC	S801+N37N3S	
		20		ECS91Q1CAE	ECS91Q2CAE	ECS91Q4CAE	ECS91Q8CAE		
575V	20	30A	ECS91Q1DAC	ECS91Q2DAC	ECS91Q4DAC	ECS91Q8DAC	S801+N37N3S		
	30		ECS91Q1DAE	ECS91Q2DAE	ECS91Q4DAE	ECS91Q8DAE			
66A	200V	15	24 Vdc	100A	ECS91S1EAF	ECS91S2EAF	ECS91S4EAF	ECS91S8EAF	S801+N66N3S
	230V	15	60A	ECS91S1BAD	ECS91S2BAD	ECS91S4BAD	ECS91S8BAD	S801+N66N3S	
		20		100A	ECS91S1BAF	ECS91S2BAF	ECS91S4BAF		ECS91S8BAF
	460V	40	60A	ECS91S1CAG	ECS91S2CAG	ECS91S4CAG	ECS91S8CAG	S801+N66N3S	
	575V	50		ECS91S1DAG	ECS91S2DAG	ECS91S4DAG	ECS91S8DAG	S801+N66N3S	
Frame Size—110 mm									
105A	200V	25	24 Vdc	200A	ECS91V1EAH	ECS91V2EAH	ECS91V4EAH	ECS91V8EAH	S801+R10N3S
	230V	30	ECS91V1BAH		ECS91V2BAH	ECS91V4BAH	ECS91V8BAH		
	460V	60	ECS91V1CAJ		ECS91V2CAJ	ECS91V4CAJ	ECS91V8CAJ		
	575V	75	ECS91V1DAJ		ECS91V2DAJ	ECS91V4DAJ	ECS91V8DAJ		
135A	200V	30	24 Vdc	200A	ECS91W1EAH	ECS91W2EAH	ECS91W4EAH	ECS91W8EAH	S801+R13N3S
	230V	40	ECS91W1BAH		ECS91W2BAH	ECS91W4BAH	ECS91W8BAH		
	460V	75	ECS91W1CAJ		ECS91W2CAJ	ECS91W4CAJ	ECS91W8CAJ		
	575V	100	ECS91W1DAJ		ECS91W2DAJ	ECS91W4DAJ	ECS91W8DAJ		
Frame Size—200 mm									
180A	200V	50	24 Vdc	400A	ECS91Y1EAK	ECS91Y2EAK	ECS91Y4EAK	ECS91Y8EAK	S801+T18N3S
	230V	60	ECS91Y1BAK		ECS91Y2BAK	ECS91Y4BAK	ECS91Y8BAK		
	460V	125	ECS91Y1CAL		ECS91Y2CAL	ECS91Y4CAL	ECS91Y8CAL		
	575V	150	ECS91Y1DAL		ECS91Y2DAL	ECS91Y4DAL	ECS91Y8DAL		
240A	200V	60	24 Vdc	400A	ECS91Z1EAK	ECS91Z2EAK	ECS91Z4EAK	ECS91Z8EAK	S801+T24N3S
	230V	75	ECS91Z1BAK		ECS91Z2BAK	ECS91Z4BAK	ECS91Z8BAK		
	460V	150	ECS91Z1CAL		ECS91Z2CAL	ECS91Z4CAL	ECS91Z8CAL		
	575V	200	ECS91Z1DAL		ECS91Z2DAL	ECS91Z4DAL	ECS91Z8DAL		
304A	200V	75	24 Vdc	400A	ECS9111EAK	ECS9112EAK	ECS9114EAK	ECS9118EAK	S801+T30N3S
	230V	100	ECS9111BAK		ECS9112BAK	ECS9114BAK	ECS9118BAK		
	460V	200	ECS9111CAL		ECS9112CAL	ECS9114CAL	ECS9118CAL		
	575V	250	ECS9111DAL		ECS9112DAL	ECS9114DAL	ECS9118DAL		

Notes

- ① Standard duty horsepower ratings are for 300% ramp current, 30 seconds ramp time, and three starts per hour. Consult Eaton for other ratings.
- ② Based on 1.15 service factor.
- ③ All *IT* soft starters are furnished with 24 Vdc coils and control power supplies. For 24 Vdc separate control, use modification code **C35** and change the eighth digit to **Q** (that is, ECS90S1EAA becomes ECS90S1QAA-C35).
- ④ The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECS91S4EAA. To order Type 4X 316-Grade stainless steel, change that digit to **9**. To order Type 4 painted steel, change that digit to **3**. To order non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

Class ECS91—Combination Reduced Voltage Soft Starter—Fusible Disconnect—S801+, continued

Amps	Motor Voltage	hp ^{①②}	Coil Voltage ^③	Switch Rating	Type 1 Catalog Number	Type 3R Catalog Number	Type 4X ^④ Catalog Number	Type 12 Catalog Number	Component Soft Starter (Open) Catalog Number
Frame Size—290 mm									
360A	200V	100	24 Vdc	600A	ECS9121EAM	ECS9122EAM	ECS9124EAM	ECS9128EAM	S801+V36N3S
	230V	125			ECS9121BAM	ECS9122BAM	ECS9124BAM	ECS9128BAM	
	460V	250			ECS9121CAN	ECS9122CAN	ECS9124CAN	ECS9128CAN	
	575V	300			ECS9121DAN	ECS9122DAN	ECS9124DAN	ECS9128DAN	
420A	200V	125	24 Vdc	600A	ECS9131EAM	ECS9132EAM	ECS9134EAM	ECS9138EAM	S801+V42N3S
	230V	150			ECS9131BAM	ECS9132BAM	ECS9134BAM	ECS9138BAM	
	460V	300			ECS9131CAN	ECS9132CAN	ECS9134CAN	ECS9138CAN	
	575V	350			ECS9131DAN	ECS9132DAN	ECS9134DAN	ECS9138DAN	
500A	200V	150	24 Vdc	800A	ECS9141EAP	ECS9142EAP	ECS9144EAP	ECS9148EAP	S801+V50N3S
	230V	150			ECS9141BAP	ECS9142BAP	ECS9144BAP	ECS9148BAP	
	460V	350			ECS9141CAP	ECS9142CAP	ECS9144CAP	ECS9148CAP	
	575V	450			ECS9141DAP	ECS9142DAP	ECS9144DAP	ECS9148DAP	
650A	460V	450	24 Vdc	800A	ECS9151CAP	ECS9152CAP	ECS9154CAP	ECS9158CAP	S801+V65N3S
	575V	500			ECS9151DAP	ECS9152DAP	ECS9154DAP	ECS9158DAP	
720A	460V	500	24 Vdc	1200A	ECS9161CAQ	ECS9162CAQ	ECS9164CAQ	ECS9168CAQ	S801+V72N3S
	575V	600			ECS9161DAQ	ECS9162DAQ	ECS9164DAQ	ECS9168DAQ	
850A	460V	600	24 Vdc	1600A	ECS9171CAR	ECS9172CAR	ECS9174CAR	ECS9178CAR	S801+V85N3S
	575V	700			ECS9171DAR	ECS9172DAR	ECS9174DAR	ECS9178DAR	
1000A	230V	350	24 Vdc	⑤	ECS9181BA_⑤	ECS9182BA_⑤	ECS9184BA_⑤	ECS9188BA_⑤	S801+V10N3S
	460V	700			ECS9181CA_⑤	ECS9182CA_⑤	ECS9184CA_⑤	ECS9188CA_⑤	
	575V	800			ECS9181DA_⑤	ECS9182DA_⑤	ECS9184DA_⑤	ECS9188DA_⑤	

Notes

- ① Standard duty horsepower ratings are for 300% ramp current, 30 seconds ramp time, and three starts per hour. Consult Eaton for other ratings.
- ② Based on 1.15 service factor.
- ③ All *IT* soft starters are furnished with 24 Vdc coils and control power supplies. For 24 Vdc separate control, use modification code **C35** and change the eighth digit to **Q** (that is, ECS90S1EAA becomes ECS90S1QAA-C35).
- ④ The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECS91S4EAA. To order Type 4X 316-Grade stainless steel, change that digit to **9**. To order Type 4 painted steel, change that digit to **3**. To order non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.
- ⑤ Consult Eaton.

Class ECS94—Combination Reduced Voltage Soft Starter—Fusible Disconnect—S811+ ①

Amps	Motor Voltage	hp ②③	Coil Voltage ④	Switch Rating	Type 1 Catalog Number	Type 3R Catalog Number	Type 4X ⑤ Catalog Number	Type 12 Catalog Number	Component Soft Starter (Open) Catalog Number
Frame Size—65 mm									
37A	200V	3	24 Vdc	30A	ECS94Q1EAB	ECS94Q2EAB	ECS94Q4EAB	ECS94Q8EAB	S811+N37N3S
		10		60A	ECS94Q1EAD	ECS94Q2EAD	ECS94Q4EAD	ECS94Q8EAD	
	230V	7-1/2	30A	ECS94Q1BAB	ECS94Q2BAB	ECS94Q4BAB	ECS94Q8BAB	S811+N37N3S	
		10	60A	ECS94Q1BAD	ECS94Q2BAD	ECS94Q4BAD	ECS94Q8BAD		
	460V	15	30A	ECS94Q1CAC	ECS94Q2CAC	ECS94Q4CAC	ECS94Q8CAC	S811+N37N3S	
		20	60A	ECS94Q1CAE	ECS94Q2CAE	ECS94Q4CAE	ECS94Q8CAE		
	575V	20	30A	ECS94Q1DAC	ECS94Q2DAC	ECS94Q4DAC	ECS94Q8DAC	S811+N37N3S	
		30	60A	ECS94Q1DAE	ECS94Q2DAE	ECS94Q4DAE	ECS94Q8DAE		
66A	200V	15	24 Vdc	100A	ECS94S1EAF	ECS94S2EAF	ECS94S4EAF	ECS94S8EAF	S811+N66N3S
	230V	15		60A	ECS94S1BAD	ECS94S2BAD	ECS94S4BAD	ECS94S8BAD	S811+N66N3S
		20	100A	ECS94S1BAF	ECS94S2BAF	ECS94S4BAF	ECS94S8BAF	S811+N66N3S	
	460V	40	ECS94S1CAG	ECS94S2CAG	ECS94S4CAG	ECS94S8CAG	S811+N66N3S		
	575V	50	ECS94S1DAG	ECS94S2DAG	ECS94S4DAG	ECS94S8DAG	S811+N66N3S		
Frame Size—110 mm									
105A	200V	25	24 Vdc	200A	ECS94V1EAH	ECS94V2EAH	ECS94V4EAH	ECS94V8EAH	S811+R10N3S
		30			ECS94V1BAH	ECS94V2BAH	ECS94V4BAH	ECS94V8BAH	
	460V	60	ECS94V1CAJ	ECS94V2CAJ	ECS94V4CAJ	ECS94V8CAJ			
		75	ECS94V1DAJ	ECS94V2DAJ	ECS94V4DAJ	ECS94V8DAJ			
135A	200V	30	24 Vdc	200A	ECS94W1EAH	ECS94W2EAH	ECS94W4EAH	ECS94W8EAH	S811+R13N3S
		40			ECS94W1BAH	ECS94W2BAH	ECS94W4BAH	ECS94W8BAH	
	460V	75	ECS94W1CAJ	ECS94W2CAJ	ECS94W4CAJ	ECS94W8CAJ			
		100	ECS94W1DAJ	ECS94W2DAJ	ECS94W4DAJ	ECS94W8DAJ			
Frame Size—200 mm									
180A	200V	50	24 Vdc	400A	ECS94Y1EAK	ECS94Y2EAK	ECS94Y4EAK	ECS94Y8EAK	S811+T18N3S
		60			ECS94Y1BAK	ECS94Y2BAK	ECS94Y4BAK	ECS94Y8BAK	
	460V	125	ECS94Y1CAL	ECS94Y2CAL	ECS94Y4CAL	ECS94Y8CAL			
		150	ECS94Y1DAL	ECS94Y2DAL	ECS94Y4DAL	ECS94Y8DAL			
240A	200V	60	24 Vdc	400A	ECS94Z1EAK	ECS94Z2EAK	ECS94Z4EAK	ECS94Z8EAK	S811+T24N3S
		75			ECS94Z1BAK	ECS94Z2BAK	ECS94Z4BAK	ECS94Z8BAK	
	460V	150	ECS94Z1CAL	ECS94Z2CAL	ECS94Z4CAL	ECS94Z8CAL			
		200	ECS94Z1DAL	ECS94Z2DAL	ECS94Z4DAL	ECS94Z8DAL			
304A	200V	75	24 Vdc	400A	ECS9411EAK	ECS9412EAK	ECS9414EAK	ECS9418EAK	S811+T30N3S
		100			ECS9411BAK	ECS9412BAK	ECS9414BAK	ECS9418BAK	
	460V	200	ECS9411CAL	ECS9412CAL	ECS9414CAL	ECS9418CAL			
		250	ECS9411DAL	ECS9412DAL	ECS9414DAL	ECS9418DAL			

Notes

- ① Digital Interface Module (DIM) is mounted on door as option.
- ② Standard duty horsepower ratings are for 300% ramp current, 30 seconds ramp time, and three starts per hour. Consult Eaton for other ratings.
- ③ Based on 1.15 service factor.
- ④ All *IT* soft starters are furnished with 24 Vdc coils and control power supplies. For 24 Vdc separate control, use modification code **C35** and change the eighth digit to **0** (that is, ECS90S1EAA becomes ECS90S10AA-C35).
- ⑤ The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECS94S4EAA. To order Type 4X 316-Grade stainless steel, change that digit to **9**. To order Type 4 painted steel, change that digit to **3**. To order non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

Class ECS94—Combination Reduced Voltage Soft Starter—Fusible Disconnect—S811+, continued ①

Amps	Motor Voltage	hp ②③	Coil Voltage ④	Switch Rating	Type 1 Catalog Number	Type 3R Catalog Number	Type 4X ⑤ Catalog Number	Type 12 Catalog Number	Component Soft Starter (Open) Catalog Number
Frame Size—290 mm									
360A	200V	100	24 Vdc	600A	ECS9421EAM	ECS9422EAM	ECS9424EAM	ECS9428EAM	S811+V36N3S
	230V	125			ECS9421BAM	ECS9422BAM	ECS9424BAM	ECS9428BAM	
	460V	250			ECS9421CAN	ECS9422CAN	ECS9424CAN	ECS9428CAN	
	575V	300			ECS9421DAN	ECS9422DAN	ECS9424DAN	ECS9428DAN	
420A	200V	125	24 Vdc	600A	ECS9431EAM	ECS9432EAM	ECS9434EAM	ECS9438EAM	S811+V42N3S
	230V	150			ECS9431BAM	ECS9432BAM	ECS9434BAM	ECS9438BAM	
	460V	300			ECS9431CAN	ECS9432CAN	ECS9434CAN	ECS9438CAN	
	575V	350			ECS9431DAN	ECS9432DAN	ECS9434DAN	ECS9438DAN	
500A	200V	150	24 Vdc	800A	ECS9441EAP	ECS9442EAP	ECS9444EAP	ECS9448EAP	S811+V50N3S
	230V	150			ECS9441BAP	ECS9442BAP	ECS9444BAP	ECS9448BAP	
	460V	350			ECS9441CAP	ECS9442CAP	ECS9444CAP	ECS9448CAP	
	575V	450			ECS9441DAP	ECS9442DAP	ECS9444DAP	ECS9448DAP	
650A	460V	450	24 Vdc	800A	ECS9451CAP	ECS9452CAP	ECS9454CAP	ECS9458CAP	S811+V65N3S
	575V	500			ECS9451DAP	ECS9452DAP	ECS9454DAP	ECS9458DAP	
720A	460V	500	24 Vdc	1200A	ECS9461CAQ	ECS9462CAQ	ECS9464CAQ	ECS9468CAQ	S811+V72N3S
	575V	600			ECS9461DAQ	ECS9462DAQ	ECS9464DAQ	ECS9468DAQ	
850A	460V	600	24 Vdc	1600A	ECS9471CAR	ECS9472CAR	ECS9474CAR	ECS9478CAR	S811+V85N3S
	575V	700			ECS9471DAR	ECS9472DAR	ECS9474DAR	ECS9478DAR	
1000A	230V	350	24 Vdc	⑥	ECS9481BA_⑥	ECS9482BA_⑥	ECS9484BA_⑥	ECS9488BA_⑥	S811+V10N3S
	460V	700			ECS9481CA_⑥	ECS9482CA_⑥	ECS9484CA_⑥	ECS9488CA_⑥	
	575V	800			ECS9481DA_⑥	ECS9482DA_⑥	ECS9484DA_⑥	ECS9488DA_⑥	

Notes

- ① Digital Interface Module (DIM) is mounted on door as option.
- ② Standard duty horsepower ratings are for 300% ramp current, 30 seconds ramp time, and three starts per hour. Consult Eaton for other ratings.
- ③ Based on 1.15 service factor.
- ④ All *IT* soft starters are furnished with 24 Vdc coils and control power supplies. For 24 Vdc separate control, use modification code **C35** and change the eighth digit to **Q** (that is, ECS90S1EAA becomes ECS90S1QAA-C35).
- ⑤ The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECS94S4EAA. To order Type 4X 316-Grade stainless steel, change that digit to **9**. To order Type 4 painted steel, change that digit to **3**. To order non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.
- ⑥ Consult Eaton.

Combination—Circuit Breaker

Class ECS92—Combination Reduced Voltage Soft Starter—Circuit Breaker—S801+

Amps	Motor Voltage	hp ^{①②}	Coil Voltage ^③	Circuit Breaker Rating	Type 1 Catalog Number	Type 3R Catalog Number	Type 4X ^④ Catalog Number	Type 7/9 Catalog Number	Type 12 Catalog Number	Component Soft Starter (Open) Catalog Number	
Frame Size—65 mm											
37A	200V	1/2	24 Vdc	7A	ECS92Q1EAC	ECS92Q2EAC	ECS92Q4EAC	ECS92Q6EAC	ECS92Q8EAC	S801+N37N3S	
		1		15A	ECS92Q1EAD	ECS92Q2EAD	ECS92Q4EAD	ECS92Q6EAD	ECS92Q8EAD		
		3		30A	ECS92Q1EAE	ECS92Q2EAE	ECS92Q4EAE	ECS92Q6EAE	ECS92Q8EAE		
		10		50A	ECS92Q1EAF	ECS92Q2EAF	ECS92Q4EAF	ECS92Q6EAF	ECS92Q8EAF		
230V		1	24 Vdc	7A	ECS92Q1BAC	ECS92Q2BAC	ECS92Q4BAC	ECS92Q6BAC	ECS92Q8BAC	S801+N37N3S	
		2		15A	ECS92Q1BAD	ECS92Q2BAD	ECS92Q4BAD	ECS92Q6BAD	ECS92Q8BAD		
		3		30A	ECS92Q1BAE	ECS92Q2BAE	ECS92Q4BAE	ECS92Q6BAE	ECS92Q8BAE		
		10		50A	ECS92Q1BAF	ECS92Q2BAF	ECS92Q4BAF	ECS92Q6BAF	ECS92Q8BAF		
460V		3/4	24 Vdc	3A	ECS92Q1CAB	ECS92Q2CAB	ECS92Q4CAB	ECS92Q6CAB	ECS92Q8CAB	S801+N37N3S	
		2		7A	ECS92Q1CAC	ECS92Q2CAC	ECS92Q4CAC	ECS92Q6CAC	ECS92Q8CAC		
		5		15A	ECS92Q1CAD	ECS92Q2CAD	ECS92Q4CAD	ECS92Q6CAD	ECS92Q8CAD		
		10		30A	ECS92Q1CAE	ECS92Q2CAE	ECS92Q4CAE	ECS92Q6CAE	ECS92Q8CAE		
		20		50A	ECS92Q1CAF	ECS92Q2CAF	ECS92Q4CAF	ECS92Q6CAF	ECS92Q8CAF		
575V		1	24 Vdc	3A	ECS92Q1DAB	ECS92Q2DAB	ECS92Q4DAB	ECS92Q6DAB	ECS92Q8DAB	S801+N37N3S	
		3		7A	ECS92Q1DAC	ECS92Q2DAC	ECS92Q4DAC	ECS92Q6DAC	ECS92Q8DAC		
		7-1/2		15A	ECS92Q1DAD	ECS92Q2DAD	ECS92Q4DAD	ECS92Q6DAD	ECS92Q8DAD		
		15		30A	ECS92Q1DAE	ECS92Q2DAE	ECS92Q4DAE	ECS92Q6DAE	ECS92Q8DAE		
		30		50A	ECS92Q1DAF	ECS92Q2DAF	ECS92Q4DAF	ECS92Q6DAF	ECS92Q8DAF		
66A	200V	15	24 Vdc	100A	ECS92S1EAG	ECS92S2EAG	ECS92S4EAG	ECS92S6EAG	ECS92S8EAG	S801+N66N3S	
	230V	15		70A	ECS92S1BAW	ECS92S2BAW	ECS92S4BAW	ECS92S6BAW	ECS92S8BAW		
		20		100A	ECS92S1BAG	ECS92S2BAG	ECS92S4BAG	ECS92S6BAG	ECS92S8BAG		
	460V	40		100A	ECS92S1CAG	ECS92S2CAG	ECS92S4CAG	ECS92S6CAG	ECS92S8CAG	S801+N66N3S	
	575V	50			ECS92S1DAG	ECS92S2DAG	ECS92S4DAG	ECS92S6DAG	ECS92S8DAG	S801+N66N3S	
Frame Size—110 mm											
105A	200V	25	24 Vdc	150A	ECS92V1EAH	ECS92V2EAH	ECS92V4EAH	ECS92V6EAH	ECS92V8EAH	S801+R10N3S	
		230V			30	ECS92V1BAH	ECS92V2BAH	ECS92V4BAH	ECS92V6BAH	ECS92V8BAH	S801+R10N3S
		460V			60	ECS92V1CAH	ECS92V2CAH	ECS92V4CAH	ECS92V6CAH	ECS92V8CAH	S801+R10N3S
		575V			75	ECS92V1DAH	ECS92V2DAH	ECS92V4DAH	ECS92V6DAH	ECS92V8DAH	S801+R10N3S
135A	200V	30	24 Vdc	250A	ECS92W1EAJ	ECS92W2EAJ	ECS92W4EAJ	ECS92W6EAJ	ECS92W8EAJ	S801+R13N3S	
		230V		40	150A	ECS92W1BAH	ECS92W2BAH	ECS92W4BAH	ECS92W6BAH	ECS92W8BAH	
				75	ECS92W1CAH	ECS92W2CAH	ECS92W4CAH	ECS92W6CAH	ECS92W8CAH		
				100	ECS92W1DAH	ECS92W2DAH	ECS92W4DAH	ECS92W6DAH	ECS92W8DAH		

Notes

- ① Standard duty horsepower ratings are for 300% ramp current, 30 seconds ramp time, and three starts per hour. Consult Eaton for other ratings.
- ② Based on 1.15 service factor.
- ③ All *IT* soft starters are furnished with 24 Vdc coils and control power supplies. For 24 Vdc separate control, use modification code **C35** and change the eighth digit to **Q** (that is, ECS90S1EAA becomes ECS90S1QAA-C35).
- ④ The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECS92S4EAA. To order Type 4X 316-Grade stainless steel, change that digit to **9**. To order Type 4 painted steel, change that digit to **3**. To order non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

5.2

Reduced Voltage Starter

S801+/S811+ *IT*. Solid-State Soft Starters

5

Class ECS92—Combination Reduced Voltage Soft Starter—Circuit Breaker—S801+, continued

Amps	Motor Voltage	hp ^{①②}	Coil Voltage ^③	Circuit Breaker Rating	Type 1 Catalog Number	Type 3R Catalog Number	Type 4X ^④ Catalog Number	Type 7/9 Catalog Number	Type 12 Catalog Number	Component Soft Starter (Open) Catalog Number
Frame Size—200 mm										
180A	200V	50	24 Vdc	250A	ECS92Y1EAJ	ECS92Y2EAJ	ECS92Y4EAJ	ECS92Y6EAJ	ECS92Y8EAJ	S801+T18N3S
	230V	60			ECS92Y1BAJ	ECS92Y2BAJ	ECS92Y4BAJ	ECS92Y6BAJ	ECS92Y8BAJ	
	460V	125			ECS92Y1CAJ	ECS92Y2CAJ	ECS92Y4CAJ	ECS92Y6CAJ	ECS92Y8CAJ	
	575V	150			ECS92Y1DAJ	ECS92Y2DAJ	ECS92Y4DAJ	ECS92Y6DAJ	ECS92Y8DAJ	
240A	200V	60	24 Vdc	400A	ECS92Z1EAK	ECS92Z2EAK	ECS92Z4EAK	ECS92Z6EAK	ECS92Z8EAK	S801+T24N3S
	230V	75			ECS92Z1BAK	ECS92Z2BAK	ECS92Z4BAK	ECS92Z6BAK	ECS92Z8BAK	
	460V	150		250A	ECS92Z1CAJ	ECS92Z2CAJ	ECS92Z4CAJ	ECS92Z6CAJ	ECS92Z8CAJ	
	575V	200			ECS92Z1DAJ	ECS92Z2DAJ	ECS92Z4DAJ	ECS92Z6DAJ	ECS92Z8DAJ	
304A	200V	75	24 Vdc	400A	ECS9211EAK	ECS9212EAK	ECS9214EAK	ECS9216EAK	ECS9218EAK	S801+T30N3S
	230V	100			ECS9211BAK	ECS9212BAK	ECS9214BAK	ECS9216BAK	ECS9218BAK	
	460V	200			ECS9211CAK	ECS9212CAK	ECS9214CAK	ECS9216CAK	ECS9218CAK	
	575V	250			ECS9211DAK	ECS9212DAK	ECS9214DAK	ECS9216DAK	ECS9218DAK	
Frame Size—290 mm										
360A	200V	100	24 Vdc	600A	ECS9221EAL	ECS9222EAL	ECS9224EAL	—	ECS9228EAL	S801+V36N3S
	230V	125		400A	ECS9221BAK	ECS9222BAK	ECS9224BAK	—	ECS9228BAK	
	460V	250		600A	ECS9221CAL	ECS9222CAL	ECS9224CAL	—	ECS9228CAL	
	575V	300		400A	ECS9221DAK	ECS9222DAK	ECS9224DAK	—	ECS9228DAK	
420A	200V	125	24 Vdc	600A	ECS9231EAL	ECS9232EAL	ECS9234EAL	—	ECS9238EAL	S801+V42N3S
	230V	150			ECS9231BAL	ECS9232BAL	ECS9234BAL	—	ECS9238BAL	
	460V	300			ECS9231CAL	ECS9232CAL	ECS9234CAL	—	ECS9238CAL	
	575V	350			ECS9231DAL	ECS9232DAL	ECS9234DAL	—	ECS9238DAL	
500A	230V	150	24 Vdc	600A	ECS9241BAL	ECS9242BAL	ECS9244BAL	—	ECS9248BAL	S801+V50N3S
	460V	350			ECS9241CAL	ECS9242CAL	ECS9244CAL	—	ECS9248CAL	
	575V	450			ECS9241DAL	ECS9242DAL	ECS9244DAL	—	ECS9248DAL	
650A	200V	200	24 Vdc	1200A	ECS9251EAP	ECS9252EAP	ECS9254EAP	—	ECS9258EAP	S801+V65N3S
	230V	200			ECS9251BAP	ECS9252BAP	ECS9254BAP	—	ECS9258BAP	
	460V	450			ECS9251CAP	ECS9252CAP	ECS9254CAP	—	ECS9258CAP	
	575V	500			ECS9251DAP	ECS9252DAP	ECS9254DAP	—	ECS9258DAP	
720A	230V	250	24 Vdc	1200A	ECS9261BAP	ECS9262BAP	ECS9264BAP	—	ECS9268BAP	S801+V72N3S
	460V	500			ECS9261CAP	ECS9262CAP	ECS9264CAP	—	ECS9268CAP	
	575V	600			ECS9261DAP	ECS9262DAP	ECS9264DAP	—	ECS9268DAP	
850A	460V	600	24 Vdc	1200A	ECS9271CAP	ECS9272CAP	ECS9274CAP	—	ECS9278CAP	S801+V85N3S
	575V	700			ECS9271DAP	ECS9272DAP	ECS9274DAP	—	ECS9278DAP	
1000A	230V	350	24 Vdc	1600A	ECS9281BAQ	ECS9282BAQ	ECS9284BAQ	—	ECS9288BAQ	S801+V10N3S
	460V	700			ECS9281CAQ	ECS9282CAQ	ECS9284CAQ	—	ECS9288CAQ	
	575V	800			ECS9281DAQ	ECS9282DAQ	ECS9284DAQ	—	ECS9288DAQ	

Notes

- ① Standard duty horsepower ratings are for 300% ramp current, 30 seconds ramp time, and three starts per hour. Consult Eaton for other ratings.
- ② Based on 1.15 service factor.
- ③ All *IT* soft starters are furnished with 24 Vdc coils and control power supplies. For 24 Vdc separate control, use modification code **C35** and change the eighth digit to **Q** (that is, ECS90S1EAA becomes ECS90S1QAA-C35).
- ④ The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECS92S4EAA. To order Type 4X 316-Grade stainless steel, change that digit to **9**. To order Type 4 painted steel, change that digit to **3**. To order non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

Class ECS95—Combination Reduced Voltage Soft Starter—Circuit Breaker—S811+ ①

Amps	Motor Voltage	hp ②③	Coil Voltage ④	Circuit Breaker Rating	Type 1 Catalog Number	Type 3R Catalog Number	Type 4X ⑤ Catalog Number	Type 7/9 Catalog Number	Type 12 Catalog Number	Component Soft Starter (Open) Catalog Number
Frame Size—65 mm										
37A	200V	1/2	24 Vdc	7A	ECS95Q1EAC	ECS95Q2EAC	ECS95Q4EAC	ECS95Q6EAC	ECS95Q8EAC	S811+N37N3S
		1		15A	ECS95Q1EAD	ECS95Q2EAD	ECS95Q4EAD	ECS95Q6EAD	ECS95Q8EAD	
		3		30A	ECS95Q1EAE	ECS95Q2EAE	ECS95Q4EAE	ECS95Q6EAE	ECS95Q8EAE	
		10		50A	ECS95Q1EAF	ECS95Q2EAF	ECS95Q4EAF	ECS95Q6EAF	ECS95Q8EAF	
230V	24 Vdc	1	7A	ECS95Q1BAC	ECS95Q2BAC	ECS95Q4BAC	ECS95Q6BAC	ECS95Q8BAC	S811+N37N3S	
		2	15A	ECS95Q1BAD	ECS95Q2BAD	ECS95Q4BAD	ECS95Q6BAD	ECS95Q8BAD		
		3	30A	ECS95Q1BAE	ECS95Q2BAE	ECS95Q4BAE	ECS95Q6BAE	ECS95Q8BAE		
		10	50A	ECS95Q1BAF	ECS95Q2BAF	ECS95Q4BAF	ECS95Q6BAF	ECS95Q8BAF		
460V	24 Vdc	3/4	3A	ECS95Q1CAB	ECS95Q2CAB	ECS95Q4CAB	ECS95Q6CAB	ECS95Q8CAB	S811+N37N3S	
		2	7A	ECS95Q1CAC	ECS95Q2CAC	ECS95Q4CAC	ECS95Q6CAC	ECS95Q8CAC		
		5	15A	ECS95Q1CAD	ECS95Q2CAD	ECS95Q4CAD	ECS95Q6CAD	ECS95Q8CAD		
		10	30A	ECS95Q1CAE	ECS95Q2CAE	ECS95Q4CAE	ECS95Q6CAE	ECS95Q8CAE		
		20	50A	ECS95Q1CAF	ECS95Q2CAF	ECS95Q4CAF	ECS95Q6CAF	ECS95Q8CAF		
575V	24 Vdc	1	3A	ECS95Q1DAB	ECS95Q2DAB	ECS95Q4DAB	ECS95Q6DAB	ECS95Q8DAB	S811+N37N3S	
		3	7A	ECS95Q1DAC	ECS95Q2DAC	ECS95Q4DAC	ECS95Q6DAC	ECS95Q8DAC		
		7-1/2	15A	ECS95Q1DAD	ECS95Q2DAD	ECS95Q4DAD	ECS95Q6DAD	ECS95Q8DAD		
		15	30A	ECS95Q1DAE	ECS95Q2DAE	ECS95Q4DAE	ECS95Q6DAE	ECS95Q8DAE		
		30	50A	ECS95Q1DAF	ECS95Q2DAF	ECS95Q4DAF	ECS95Q6DAF	ECS95Q8DAF		
66A	24 Vdc	15	100A	ECS95S1EAG	ECS95S2EAG	ECS95S4EAG	ECS95S6EAG	ECS95S8EAG	S811+N66N3S	
		230V	15	70A	ECS95S1BAW	ECS95S2BAW	ECS95S4BAW	ECS95S6BAW		ECS95S8BAW
			20	100A	ECS95S1BAG	ECS95S2BAG	ECS95S4BAG	ECS95S6BAG		ECS95S8BAG
		460V	40	ECS95S1CAG	ECS95S2CAG	ECS95S4CAG	ECS95S6CAG	ECS95S8CAG		S811+N66N3S
		575V	50	ECS95S1DAG	ECS95S2DAG	ECS95S4DAG	ECS95S6DAG	ECS95S8DAG		S811+N66N3S
Frame Size—110 mm										
105A	24 Vdc	25	150A	ECS95V1EAH	ECS95V2EAH	ECS95V4EAH	ECS95V6EAH	ECS95V8EAH	S811+R10N3S	
		30		ECS95V1BAH	ECS95V2BAH	ECS95V4BAH	ECS95V6BAH	ECS95V8BAH		
		60		ECS95V1CAH	ECS95V2CAH	ECS95V4CAH	ECS95V6CAH	ECS95V8CAH		
		75		ECS95V1DAH	ECS95V2DAH	ECS95V4DAH	ECS95V6DAH	ECS95V8DAH		
135A	24 Vdc	30	250A	ECS95W1EAJ	ECS95W2EAJ	ECS95W4EAJ	ECS95W6EAJ	ECS95W8EAJ	S811+R13N3S	
		40		150A	ECS95W1BAH	ECS95W2BAH	ECS95W4BAH	ECS95W6BAH		ECS95W8BAH
		75	ECS95W1CAH	ECS95W2CAH	ECS95W4CAH	ECS95W6CAH	ECS95W8CAH			
		100	ECS95W1DAH	ECS95W2DAH	ECS95W4DAH	ECS95W6DAH	ECS95W8DAH			

Notes

- ① Digital Interface Module (DIM) is mounted on door as option.
- ② Standard duty horsepower ratings are for 300% ramp current, 30 seconds ramp time, and three starts per hour. Consult Eaton for other ratings.
- ③ Based on 1.15 service factor.
- ④ All *IT* soft starters are furnished with 24 Vdc coils and control power supplies. For 24 Vdc separate control, use modification code **C35** and change the eighth digit to **Q** (that is, ECS90S1EAA becomes ECS90S1QAA-C35).
- ⑤ The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECS95S4EAA. To order Type 4X 316-Grade stainless steel, change that digit to **9**. To order Type 4 painted steel, change that digit to **3**. To order non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

5.2

Reduced Voltage Starter

S801+/S811+ *IT*. Solid-State Soft Starters

Class ECS95—Combination Reduced Voltage Soft Starter—Circuit Breaker—S811+, continued ①

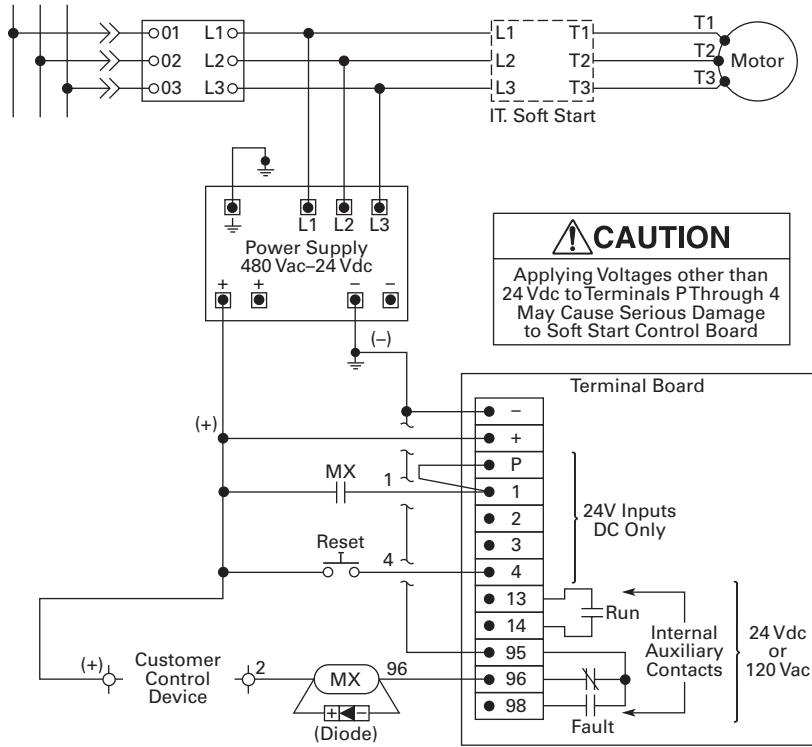
Amps	Motor Voltage	hp ②③	Coil Voltage ④	Circuit Breaker Type	Type 1 Catalog Number	Type 3R Catalog Number	Type 4X ⑤ Catalog Number	Type 7/9 Catalog Number	Type 12 Catalog Number	Component Soft Starter (Open) Catalog Number
Frame Size—200 mm										
180A	200V	50	24 Vdc	250A	ECS95Y1EAJ	ECS95Y2EAJ	ECS95Y4EAJ	ECS95Y6EAJ	ECS95Y8EAJ	S811+T18N3S
	230V	60			ECS95Y1BAJ	ECS95Y2BAJ	ECS95Y4BAJ	ECS95Y6BAJ	ECS95Y8BAJ	
	460V	125			ECS95Y1CAJ	ECS95Y2CAJ	ECS95Y4CAJ	ECS95Y6CAJ	ECS95Y8CAJ	
	575V	150			ECS95Y1DAJ	ECS95Y2DAJ	ECS95Y4DAJ	ECS95Y6DAJ	ECS95Y8DAJ	
240A	200V	60	24 Vdc	400A	ECS95Z1EAK	ECS95Z2EAK	ECS95Z4EAK	ECS95Z6EAK	ECS95Z8EAK	S811+T24N3S
	230V	75			ECS95Z1BAK	ECS95Z2BAK	ECS95Z4BAK	ECS95Z6BAK	ECS95Z8BAK	
	460V	150		250A	ECS95Z1CAJ	ECS95Z2CAJ	ECS95Z4CAJ	ECS95Z6CAJ	ECS95Z8CAJ	
	575V	200			ECS95Z1DAJ	ECS95Z2DAJ	ECS95Z4DAJ	ECS95Z6DAJ	ECS95Z8DAJ	
304A	200V	75	24 Vdc	400A	ECS9511EAK	ECS9512EAK	ECS9514EAK	ECS9516EAK	ECS9518EAK	S811+T30N3S
	230V	100			ECS9511BAK	ECS9512BAK	ECS9514BAK	ECS9516BAK	ECS9518BAK	
	460V	200			ECS9511CAK	ECS9512CAK	ECS9514CAK	ECS9516CAK	ECS9518CAK	
	575V	250			ECS9511DAK	ECS9512DAK	ECS9514DAK	ECS9516DAK	ECS9518DAK	
Frame Size—290 mm										
360A	200V	100	24 Vdc	600A	ECS9521EAL	ECS9522EAL	ECS9524EAL	—	ECS9528EAL	S811+V36N3S
	230V	125		400A	ECS9521BAK	ECS9522BAK	ECS9524BAK	—	ECS9528BAK	
	460V	250		600A	ECS9521CAL	ECS9522CAL	ECS9524CAL	—	ECS9528CAL	
	575V	300		400A	ECS9521DAK	ECS9522DAK	ECS9524DAK	—	ECS9528DAK	
420A	200V	125	24 Vdc	600A	ECS9531EAL	ECS9532EAL	ECS9534EAL	—	ECS9538EAL	S811+V42N3S
	230V	150			ECS9531BAL	ECS9532BAL	ECS9534BAL	—	ECS9538BAL	
	460V	300			ECS9531CAL	ECS9532CAL	ECS9534CAL	—	ECS9538CAL	
	575V	350			ECS9531DAL	ECS9532DAL	ECS9534DAL	—	ECS9538DAL	
500A	230V	150	24 Vdc	600A	ECS9541BAL	ECS9542BAL	ECS9544BAL	—	ECS9548BAL	S811+V50N3S
	460V	350			ECS9541CAL	ECS9542CAL	ECS9544CAL	—	ECS9548CAL	
	575V	450			ECS9541DAL	ECS9542DAL	ECS9544DAL	—	ECS9548DAL	
650A	200V	200	24 Vdc	1200A	ECS9551EAP	ECS9552EAP	ECS9554EAP	—	ECS9558EAP	S811+V65N3S
	230V	200			ECS9551BAP	ECS9552BAP	ECS9554BAP	—	ECS9558BAP	
	460V	450			ECS9551CAP	ECS9552CAP	ECS9554CAP	—	ECS9558CAP	
	575V	500			ECS9551DAP	ECS9552DAP	ECS9554DAP	—	ECS9558DAP	
720A	230V	250	24 Vdc	1200A	ECS9561BAP	ECS9562BAP	ECS9564BAP	—	ECS9568BAP	S811+V72N3S
	460V	500			ECS9561CAP	ECS9562CAP	ECS9564CAP	—	ECS9568CAP	
	575V	600			ECS9561DAP	ECS9562DAP	ECS9564DAP	—	ECS9568DAP	
850A	460V	600	24 Vdc	1200A	ECS9571CAP	ECS9572CAP	ECS9574CAP	—	ECS9578CAP	S811+V85N3S
	575V	700			ECS9571DAP	ECS9572DAP	ECS9574DAP	—	ECS9578DAP	
1000A	230V	350	24 Vdc	1600A	ECS9581BAQ	ECS9582BAQ	ECS9584BAQ	—	ECS9588BAQ	S811+V10N3S
	460V	700			ECS9581CAQ	ECS9582CAQ	ECS9584CAQ	—	ECS9588CAQ	
	575V	800			ECS9581DAQ	ECS9582DAQ	ECS9584DAQ	—	ECS9588DAQ	

Notes

- ① Digital Interface Module (DIM) is mounted on door as option.
- ② Standard duty horsepower ratings are for 300% ramp current, 30 seconds ramp time, and three starts per hour. Consult Eaton for other ratings.
- ③ Based on 1.15 service factor.
- ④ All *IT* soft starters are furnished with 24 Vdc coils and control power supplies. For 24 Vdc separate control, use modification code **C35** and change the eighth digit to **Q** (that is, ECS90S1EAA becomes ECS90S1QAA-C35).
- ⑤ The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECS95S4EAA. To order Type 4X 316-Grade stainless steel, change that digit to **9**. To order Type 4 painted steel, change that digit to **3**. To order non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

Wiring Diagrams

S801+/S811+

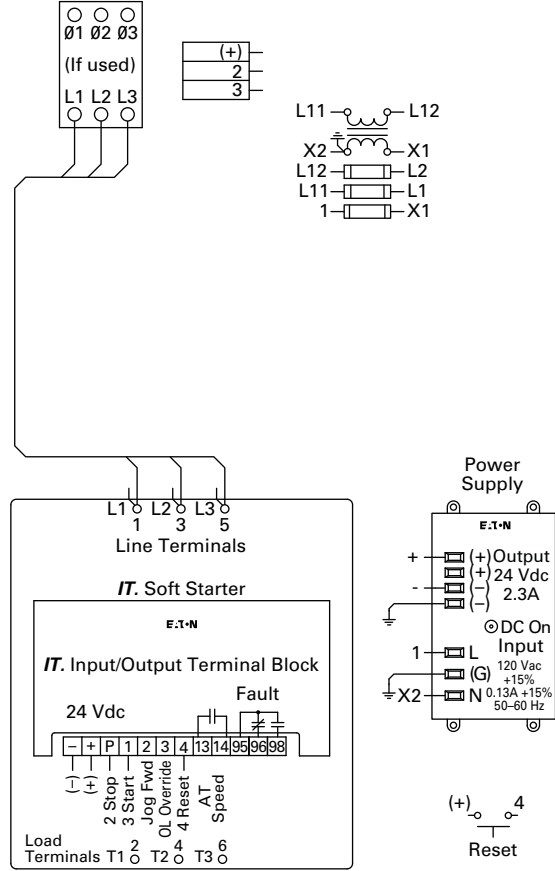
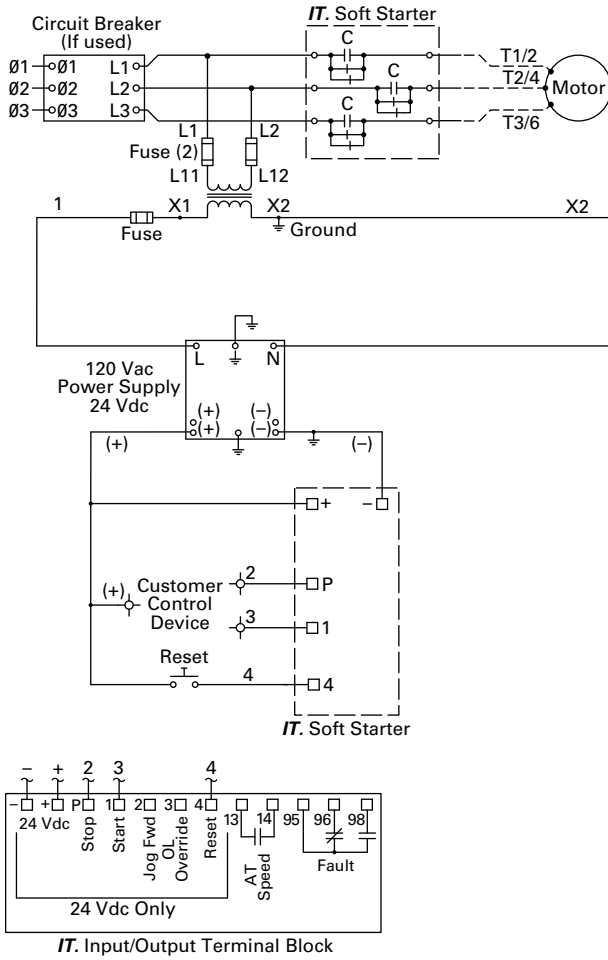


5.2

Reduced Voltage Starter

S801+/S811+ *IT*. Solid-State Soft Starters

S801+/S811+ with CPT and Power Supply



5

Dimensions

See **Tab 14** for box dimensions for Type 1, 3R, 4X and 12.
See **Tab 9** for box dimensions for Type 7/9.

Minimum Enclosure Box Numbers

Rating	SSRV	Non-Combination Box No. ①	Combination with Fuses Box No. ①	Combination with HMCP Box No. ①
37A	S801+/S811+	7A	B1	A1 ②
66A	S801+/S811+	7A	C	A1 ②
105A	S801+/S811+	7A	D	B1
135A	S801+/S811+	B1	D	C
180A	S801+/S811+	C	E	E
240A	S801+/S811+	G1	F1E	E
304A	S801+/S811+	G1	F1E	E
360A	S801+/S811+	G1	F1E	E
420A	S801+/S811+	10	F1E	E
500A	S801+/S811+	10	F1E	E
650A	S801+/S811+	10	F1E	F1E
720A	S801+/S811+	10	F1E	F1E
850A	S801+/S811+	10	F1E	F1E
1000A	S801+/S811+	10	F1E	F1E

Notes

- ① Enclosure space will also accommodate an *IT* power supply, two four-pole relays, CPT, and terminal blocks. Also includes space for a DNA module or MOV.
- ② Same as footnote ①, but CPT is not included. Upsize to B1 enclosure to include space for a CPT and a full voltage bypass contactor.